IDEXX BioAnalytics

2026 IDEXX BioAnalytics Directory of Services

EUROPE

Directory of Tests and Services

How to find a test

This directory contains IDEXX BioAnalytics' three main testing categories: Preclinical Testing, Health Monitoring, and Biologics and Cell Health.

Each testing category features our most commonly requested tests, panels, and profiles. This includes the test name, test components, specimen requirements, turnaround time (TAT), and test codes.

You'll find additional useful information such as how to collect and send in samples, and other submission suggestions.

IDEXX BioAnalytics is constantly increasing its range of laboratory services and new assays may have been implemented since this directory was produced.

For more information please visit: **www.idexxbioanalytics.eu**

Contents

About Us

What you can expect from us

At IDEXX BioAnalytics, we offer customized testing solutions, meaningful data, and global expertise in research testing services.

Our global network of experts is ready to support your research testing needs by providing fast, accurate and reliable results with expert consultation you can access directly for even greater insight. IDEXX BioAnalytics delivers comprehensive Health Monitoring, Biological Materials Testing and Preclinical Services.

What we do

Reference Lab Services for Biomedical Research

Services designed to support vivarium personnel, researchers, and investigators performing in vitro and vivo work.

Dedicated exclusively to partnering with bio-pharmaceutical, discovery and R&D programs.

For over 20 years, our teams have been supporting R&D programs across Europe and North America.

Integrated, comprehensive and analytical support through a single point of contact in the two biggest regulatory regions, Europe and North America.

Summary of Services

Reliable & reproducible results

- Detailed SOPs, sample & data archives
- VICH GL09 (GCP) capability
- Large portfolio of ISO 17025 certified in-house tests

Please note that ISO 17025 accreditation is valid for a set combination of species + sample type + method. Please ask if the tests identified as ISO 17025 accredited within this directory of services are so for the species and sample type you are interested in.

Accelerate research

- Industry-leading expertise in supporting preclinical and veterinary clinical trials
- Comprehensive solutions through in-house testing
- Comprehensive support including laboratory project management and customised reporting
- Active risk reduction to make sure samples are collected, handled and tested according to the study protocol

Innovative technologies

- Development and validation of assays to accurately measure physiologic and pathologic biomarkers

Logistics support

- Global support for single or multi-center studies
- Full support from the onset of the study until final report
- Management of specialized external laboratories
- Sampling & shipping instructions
- Easy access to collection materials
- Sample pick-up and cross border shipment
- Customized reports

Scientific expertise

- Regulatory-compliant assays for reducing the number of cases required for statistical significance
- Improving study outcome by reducing cost and time
- Positively impact the health and welfare of humans and animals (3R) by accelerating the development of novel, better and safer treatments for pets, laboratory animals and livestock

Where to find us

Lab Locations - Europe

IDEXX GmbH
IDEXX BioAnalytics
Humboldtstrasse 2
D-70806 Kornwestheim
Germany

Monday to Friday: 08.00-16:30
Sample reception *until 14:00*
Saturday: 09.00-15:30
Sample reception *until 13:00*
Sunday: Closed

Offered Services:
- Health Monitoring
- Biological and Cell Health
- Research Clinical Pathology Lab Services
- Histology Lab Services
- Histopathology Services

Lab Locations - North America

North Grafton, MA
IDEXX BioAnalytics
3 Centennial Drive
North Grafton, MA 01536

Monday to Friday 9.00-5.00
Saturday: 9:00-12:00
Sunday: Closed

Offered Services:
- Research Clinical Pathology Lab Services

West Sacramento, CA
IDEXX BioAnalytics
2825 KOVR Drive
West Sacramento, CA 95605

Monday to Saturday: 9.00-5.00
Sunday: Closed

Offered Services:
- Research Clinical Pathology Lab Services

Columbia, MO
IDEXX BioAnalytics
4011 Discovery Drive
Columbia, MO 65201

Monday to Friday: 9.00-5.00
Saturday & Sunday: Closed

Offered Services:
- Health Monitoring
- Biological and Cell Health
- Histology Lab Services
- Histopathology Services
- Cytokine Testing

Contact us

Customer Service - Europe

idexxbioanalytics-europe@idexx.com
Monday–Friday
8:30 am–16:00 CET

Customer Service - North America

idexxbioanalytics@idexx.com
1-800-669-0825
Monday–Friday
8:00 am–8:00 pm ET

Streamlined process to deliver fast, accurate results

Our team is here every step of the way to ensure your research continues to move forward.

Connect with your account manager for a quote

Register for an account in our online submission portal

Request supplies for sample collection, if necessary

Visit our online submission portal and submit your order

Package and ship your samples

Samples arrive at lab and tests are completed

Reports are delivered

Invoice and payment

Getting Started

Visit IDEXX BioAnalytics' **Support** page. Here you will find detailed information on how to request access to the Client Portal, order sample collection materials, and review recommended sample preparation and shipping procedures. You can also reach out to our Client Support Services team or set a meeting with your local account manager. This is a great first step in partnering with IDEXX BioAnalytics.

Your Account Manager will:

- Assist with quote proposals and pricing
- Provide ongoing staff training and support
- Keep you up-to-date on new products, services or industry trends

Support

Our Client Support Services (CSS) team is available to answer your questions Monday through Friday 8:30-16:00. They can be reached at:

Client Support Services
idexxbioanalytics-europe@IDEXX.com

The CSS team can help you with:

- Account setup/updates and online access
- Online submission support
- Requesting collection supplies
- Sample preparation and shipping
- Pricing questions and quoting requests
- Any other questions regarding our services

General Submission Information

To get started, please sign up for an account in our **Client Portal.** Once registered and logged in, you can conveniently place your order and complete the submission paperwork **online.**

For guidance on using the system:

- Visit our website for step-by-step tutorials
- Request a PDF user guide, or
- Schedule a virtual training session with our team

After completing the submission order, include a printed copy of the packing slip inside your shipping container to expedite sample check-in and ensure your samples are promptly transferred to the laboratory for processing.

Specimen Preparation and Handling

Supplies

IDEXX BioAnalytics can provide sampling, packing and shipping supplies. You can order your material from our **material order form**. Please contact CSS team for assistance.

Specimen labeling is critical

- Proper labeling helps ensure accuracy in testing
- IDs on sample vials must match IDs on submission paperwork
- For studies: Always label tubes, smears, specimen jars, etc., with the animal ID, study ID and collection date. Label all cytology slides with the animal ID and the site
- Do not cover the entire specimen tube with a label, as this will prevent the technologist from assessing color and clarity of the specimen
- Split-off tubes must be labeled appropriately (e.g., “plasma” with anticoagulant used, or “serum”)
- Always include a printed copy of your submission confirmation paperwork in the box with your specimens

Final preparation of samples for shipping and delivery

Your labelled samples should be packed into clear specimen transportation bags (BIOHAZARD BAG) with absorbent material and sealed correctly. Place the bags into a transportation box packed with filler material to prevent samples from jostling around. The submission confirmation form should be inside the container. If samples should remain cool during transport please put on gel packs or dry ice depending upon specific needs; no wet ice please.

Courier pick-up & shipping

When your samples are ready to be submitted you can request the DHL courier collection online. To order a pick-up please go to **Courier & Shipping**. A pick-up can be requested 1–5 business days in advance. You will be provided with a waybill. Please make sure that both waybill and UN3373 label are clearly visible on the outside of the shipping box.

If you are sending samples from outside the EU, please remember to fill and add additional shipping documents for customs control. Please download templates in **Support** or contact your CSS team. For customers using their own courier of choice please ship the samples by overnight courier (medical express) and notify the CSS team in advance.

Please ship samples to
IDEXX GmbH - IDEXX BioAnalytics
Im Moldengraben 65
D-70806 Kornwestheim
Germany

Results Delivery Options

We provide results by email and turnaround time (TAT) varies depending on the test requested. Sample submission and case status, as well as final results, can be viewed anytime via our **secure online portal**. Final results will also be delivered via PDF when all testing is completed for an accession. We offer several options for reporting to make your data easy to use. Contact the CSS team to assist you with customizing your reporting options to suit your needs.

Reporting Options for Health Monitoring

Individual sample or multi-sample reports

- IDEXX BioAnalytics provides a multi-sample/animal PDF file report, containing all samples and animals on one document.
- We are able to provide individual case reports as an option during the online submission process or by notifying our CSS team before sample receipt.
- Individual case reports cannot be generated after samples have been received in the lab.
- Opti-Tracking and FELASA Report are a self-serve health monitoring reports that are accessible via the secure online portal. The reports provide statistical overview and historic information of the number of positive results for a given test, building, room, etc. for a specific timeframe. The data can be easily exported to share with collaborators or during transfers to other facilities.

Reporting Options for Biologics and Cell Health

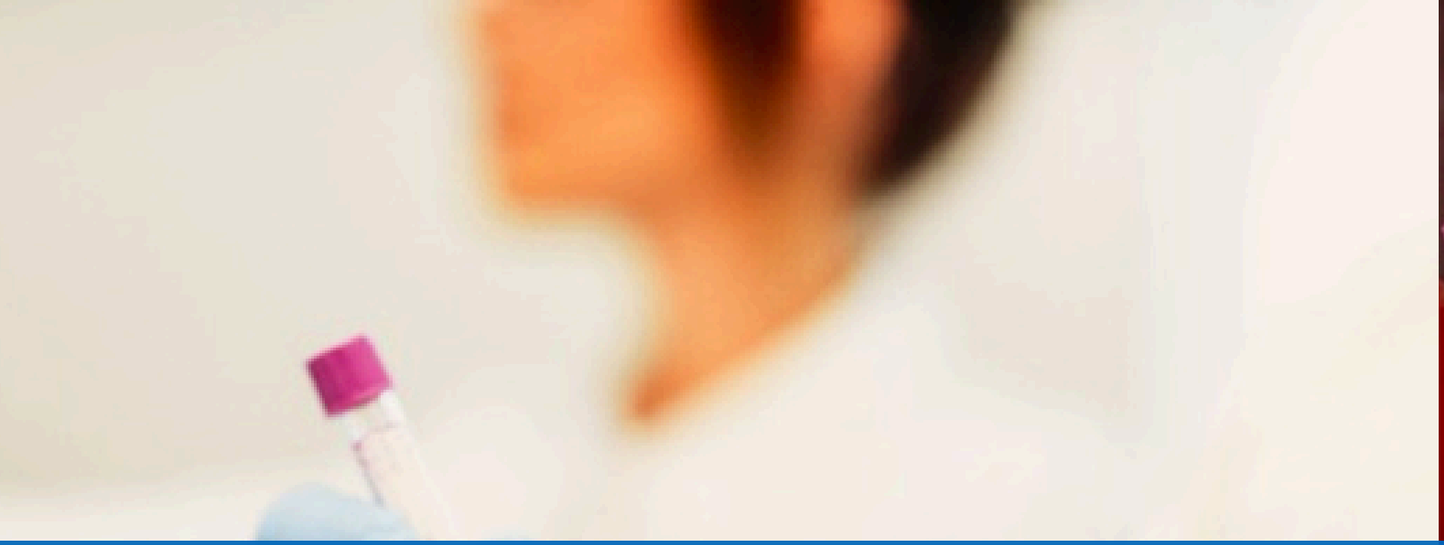
Individual sample or multi-sample reports

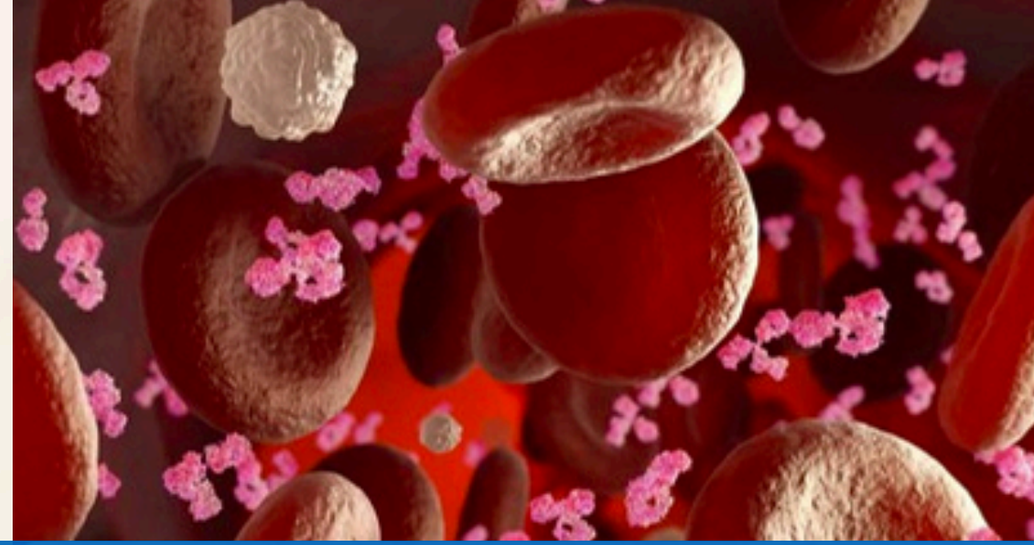
- IDEXX BioAnalytics provides a multi-sample/material PDF file report, containing all samples and material on one document.
- Individual case reports can be generated using the Certificates of Analysis reporting feature on our secure online portal.

Reporting Options for Preclinical Testing

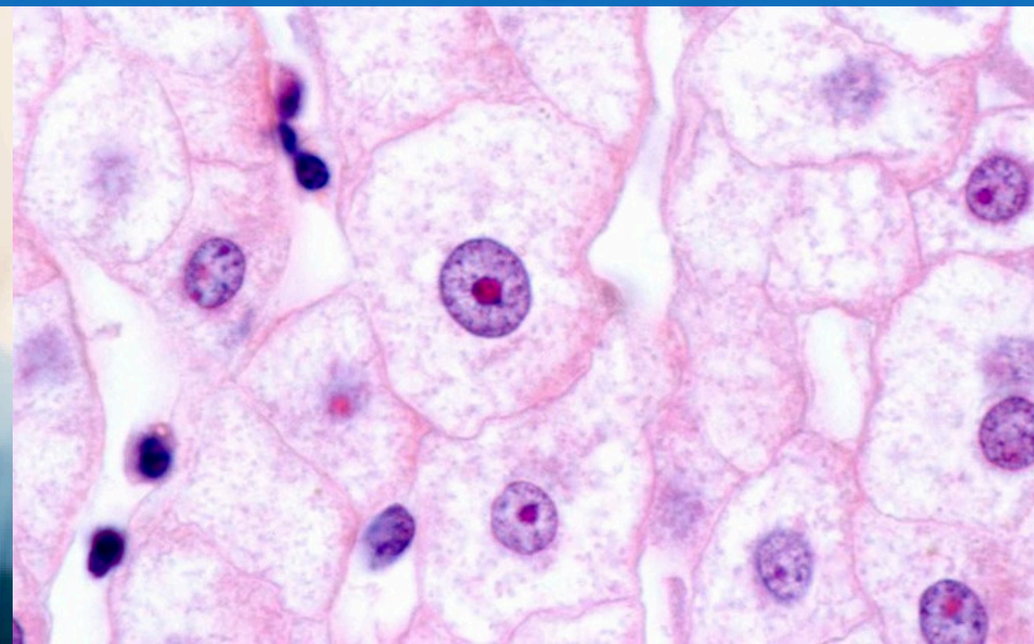
PDF, Excel, and CSV formats available

- Please let the CSS team know before your samples arrive if you would like Excel or CSV files in addition to the PDFs.
- For special formatting requests such as display order of analytes, please indicate in the general instructions section of submission form or contact Client Support Services prior to sample submission.





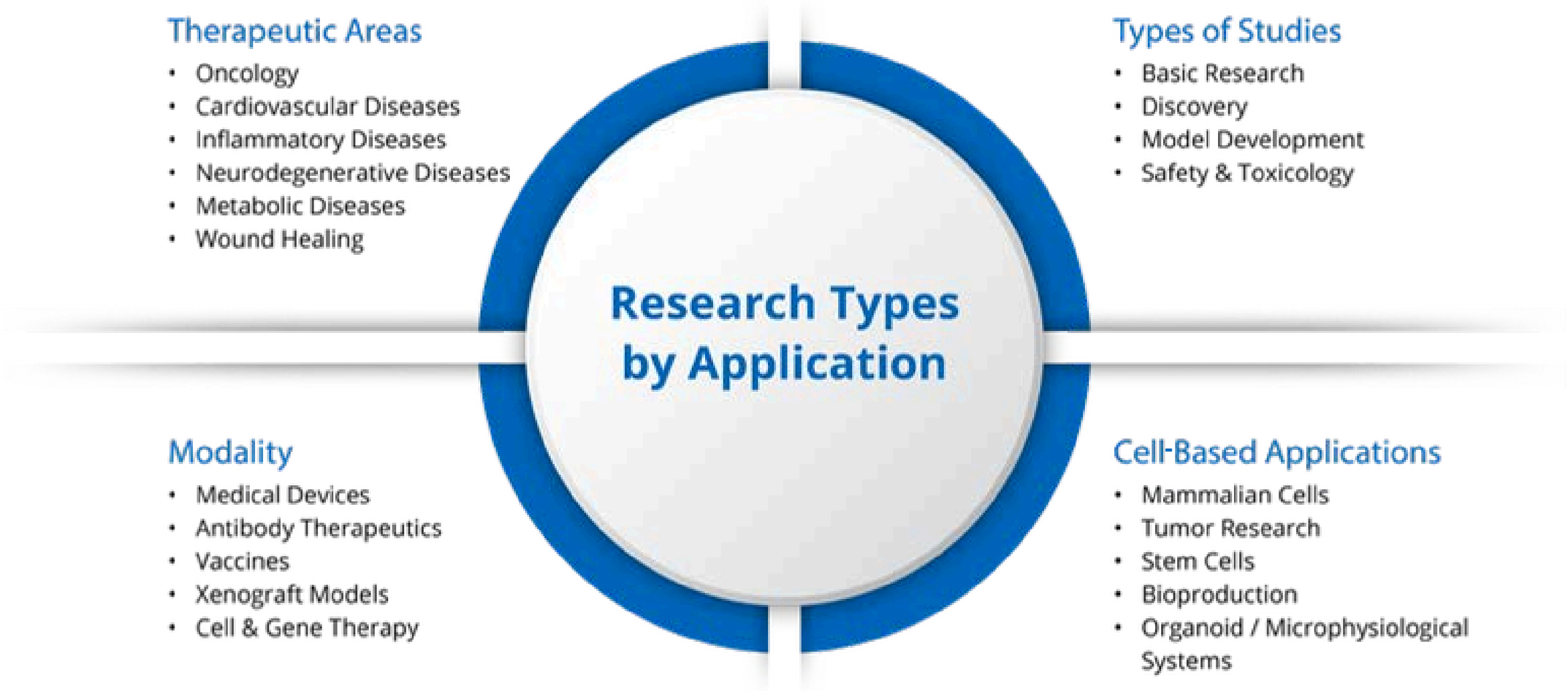
Preclinical Testing



Accuracy, Speed, and Support to Drive Research Forward

No matter the research, we have you covered

We support research across a range of therapeutic areas with comprehensive testing services, including histopathology, clinical pathology, and specialized assays



2026 Directory of Tests and Services

Clinical Pathology

Chemistry
Hematology
Coagulation
Inflammatory Markers
Cytology, Fluid Analysis, Bone Marrow
Microbiology
Parasitology & Immunology
Endocrinology

Anatomic Pathology

Histology Core Services
IHC Staining
Research and Toxicology Pathology
Candidate Selection Histopathology
Model Development
Diagnostic Pathology
Digital Image Analysis
Whole Slide Scanning

Custom Projects

Send-Out Testing Services

Chemistry Standard Panels

	Comprehensive Chemistry	Comprehensive Chemistry 2	Rodent Expanded Tox	Standard Tox	Short Tox	Tox Panel with LDH	Liver Panel	Renal Panel	Lipid Rodent	Tumor Lysis
Test code	**50-00798**	**50-00808**	**50-00820**	**50-00872**	**50-00871**	**50-00874**	**50-00841**	**50-00901**	**50-00902**	**Call**
Serum volume requirement	160 µL	190 µL	170 µL	130 µL	120 µL	105 µL	110 µL	115 µL	65 µL	Call
ISO Accreditation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Alanine Aminotransferase (ALT)	•	•	•	•	•	•	•			•
Albumin (ALB)	•	•	•	•		•	•	•		•
Albumin:Globulin Ratio	•									
Alkaline Phosphatase (ALP)	•	•	•	•	•	•	•			•
Amylase (AMY)		•								
Aspartate Aminotransferase (AST)	•	•	•	•	•	•	•			•
Bile Acids,Total			•		•					
Bilirubin Total (TBIL)	•	•	•	•	•	•	•			•
Blood Urea Nitrogen (BUN)	•	•	•	•	•			•		•
BUN:Creatinine Ratio	•		•	•						
Calcium (Ca)	•	•						•		•
Chloride (Cl)	•	•	•					•		
Cholesterol (CHOL)	•	•	•						•	
Creatine Kinase (CK)	•	•	•	•			•			
Creatinine (CREA)	•	•	•	•	•			•		•
Gamma-glutamyltransferase (GGT)		•	•	•	•		•			•
Globulin (GLB)	•			•		•				
Glucose (GLU)	•	•	•							
HDL Cholesterol (HDL-C)†									•	
Inorganic phosphate	•	•	•					•		•
Lactate Dehydrogenase (LDH)		•				•				
Lipase (LIP)		•								
LDL Cholesterol (LDL-C)†									•	•
Potassium (K)	•	•	•					•		•
Sodium (Na)	•	•	•					•		
Sodium:Potassium Ratio	•									
Total Protein (TP)	•	•	•	•		•	•	•		•
Triglycerides (TRIG)		•	•						•	
Uric Acid		•								•

† Minimum charges may apply; advance notice of submission is required for reagent ordering. Insufficient notice may increase turnaround time.

Chemistry Individual Tests

Please note that the listed volumes are for single analyte testing. If multiple analytes are requested, volumes will be reduced. Information on custom chemistry panels is available in the **custom chemistry** section. Unless otherwise stated, the following tests can be performed on the common laboratory species.

Test name	Specimen requirements	Turnaround time	Test code	ISO Accreditation
Alanine Aminotransferase (ALT/SGPT)	70 µL serum	1-2 days	**50-00509**	✓
Albumin (ALB)	70 µL serum	1-2 days	**50-00017**	✓
Alkaline Phosphatase (ALP)	70 µL serum	1-2 days	**50-00037**	✓
Ammonia †	80 µL EB plasma frozen	2-7 days	**50-00429**	✓
α-Amylase (AMY)	70 µL serum	1-2 days	**50-00026**	✓
Aspartate Aminotransferase (AST/SGOT)	70 µL serum	1-2 days	**50-00452**	✓
Betahydroxybutrate (BHB)	70 µL serum	1-2 days	**50-00072**	✓
Bile Acids, Total	70 µL serum	1-2 days	**50-00294**	✓
Bilirubin, Total	70 µL serum	1-2 days	**50-00073**	✓
Blood Urea Nitrogen (BUN)	70 µL serum	1-2 days	**50-00337**	✓
Bromide	120 µL serum	1-2 days	**50-00787**	✓
C-Reactive protein (CRP) Canine only	70 µL serum	1-2 days	**50-00164**	✓
Calcium (Ca)	70 µL serum	1-2 days	**50-00105**	✓
Chloride (Cl)	70 µL serum	1-2 days	**50-00132**	✓
Cholesterol, Total	70 µL serum	1-2 days	**50-00899**	✓
Cholinesterase	70 µL serum	1-2 days	**50-00123**	✓
Cobalamin (Vitamin B12) and Folic acid	300 µL serum	1-2 days	**50-00050**	✓
Creatinine Kinase (CK, CPK)	70 µL serum	1-2 days	**50-00154**	✓
Creatinine (CREA)	70 µL serum	1-2 days	**50-00363**	✓
Fructosamine (FRUC)	70 µL serum	1-2 days	**50-00274**	✓

Test name	Specimen requirements	Turnaround time	Test code	ISO Accreditation
Gamma-glutamyltransferase (GGT)	70 µL serum	1-2 days	**50-00318**	✓
Glucose (GLU)	70 µL serum	1-2 days	**50-00314**	✓
Glutamate dehydrogenase (GLDH)	70µL serum	1-2 days	**50-00713**	✓
High-Density Lipoprotein Cholesterol (HDL-C) ‡ Mouse only	70 µL serum	1-2 days	**50-00708**	✓
Inorganic phosphate	70 µL serum	1-2 days	**50-00453**	✓
Iron (Fe)	70 µL serum	1-2 days	**50-00241**	✓
Lactate Dehydrogenase (LDH)	70 µL serum	1-2 days	**50-00900**	✓
Lipase (LIP)	70 µL serum	1-2 days	**50-00388**	✓
Low-Density Lipoprotein Cholesterol (LDL-C) ‡ Mouse only	70 µL serum	1-2 days	**50-00711**	✓
Magnesium (Mg)	70 µL serum	1-2 days	**50-00400**	✓
Potassium (K)	70 µL serum	1-2 days	**50-00357**	✓
SDMA by Immunoassay - Canine, Feline, Rat	70 µL serum	1-2 days	**50-00542**	✓
Sodium (Na)	70 µL serum	1-2 days	**50-00422**	✓
Total Protein (TP)	70 µL serum	1-2 days	**50-00299**	✓
Total T4	70 µL serum	1-2 days	**50-00569**	✓
Triglycerides (TRIG)	70 µL serum	1-2 days	**50-00428**	✓
Uric acid	70 µL serum	1-2 days	**50-00335**	✓

† Ammonia must be shipped frozen; if sample defrosts results will be falsely elevated. Patient should also be fasted 12 hours prior to collection.

‡ Minimum charges may apply; advance notice of submission is required for reagent ordering. Insufficient notice may increase turnaround time.

Custom Chemistry

With IDEXX BioAnalytics, you have the ability to create your own chemistry panel. The following tests can be performed on the common laboratory species. Please contact Client Support Services (CSS) or your Account Manager with your preferred panel of analytes for a test code to utilize when ordering.

- Custom Serum Chemistry
- Premium Custom Chemistry
- Urine Chemistries †

Routine Analytes

Albumin (ALB)	Cholesterol (CHOL)	Lipase (LIP)
Alkaline Phosphatase (ALP)	Cholinesterase (CHE)	Magnesium (MG)
Alanine Aminotransferase (ALT)	Creatine Kinase (CK, CPK)	Phosphorus (PHOS)
Amylase (AMY)	Creatinine (CREA)	Potassium (K)
Aspartate Aminotransferase (AST)	Gamma-glytamyltransferase (GGT)	Sodium (NA)
Bilirubin, Total (BILI)	GLDH	Total Protein (GE)
Blood Urea Nitrogen (BUN, HST)	Glucose (GLU)	Triglycerides (TRIG, NF)
Calcium (CA)	Iron (FE)	Uric Acid (HS)
Chloride (CL)	Lactate Dehydrogenase (LDH)	

Calculated Values *

ALB/GLOB Ratio	Globulin (GLB)	
BUN/Creat Ratio	Na/K Ratio	

Premium Analytes

Beta-hydroxybutyric acid (BHYD)	Fructosamine (FRUK)	SDMA
Bile Acids (GALL)	HDL Cholesterol (HDL-C)‡	
C-reactive protein (CRP) (dog)	LDL Cholesterol (LDL-C)‡	

† Additional tests can be incorporated into the premium custom chemistry panels; pricing will vary
* Calculated values are complimentary and not counted as analytes.
‡ Advance notice of submission is required for reagent ordering. Insufficient notice may increase turnaround time.

Protein Electrophoresis

- Protein Electrophoresis is a well-established technique routinely used in clinical laboratories for screening serum, plasma, and urine for protein abnormalities. Proteins are separated into fractions, primarily based on their charges at a given pH.
- Refrigerated samples are stable up to one week. Frozen samples are acceptable for up to one month.

Test name	Specimen requirements	Turnaround time	Test code	ISO Accreditation
Protein Electrophoresis, Serum	200 µL serum	1-2 days	**50-00221**	✓
Protein Electrophoresis, Urine - Canine, Feline only	200 µL urine	2-6 days	**50-00513**	✗

Urinalysis Panels and Profiles

Unless otherwise stated, the following tests can be performed on the common laboratory species.

	Urinalysis	Urinalysis with Appearance and Volume	Urine Sediment	UPC
Test code	**50-00610**	**50-00876**	**50-00545**	**50-00723**
Urine volume requirement	500 µL	500 µL	500 µL	250 µL
ISO Accreditation	✓	✓	✓	✓
Clarity	•	•		
Specific gravity §	•	•		
pH†	•	•		
Protein†	•	•		
Glucose†	•	•		
Ketone bodies†	•	•		
Urobilinogen†	•	•		
Bilirubin†	•	•		
Blood (Heme)†	•	•		
Nitrite†	•	•		
Erythrocytes‡			•	
Leucocytes‡			•	
Epithelial cells‡			•	
Bacteria‡			•	
Casts‡			•	
Crystals‡			•	
Urine creatinine				•
Urine protein				•
Urine protein/creatinine				•
Appearance		•		
Volume		•		

† Testing performed by reagent dipsticks and reported semi-quantitative.
‡ Microscopic examination performed using an inverted phase scope.
§ Specific gravity is measured via refractometer.

Urine Chemistry Individual Tests

Test name	Specimen requirements	Turnaround time	Test code	ISO Accreditation
Calcium (Ca)	70 µL urine	1-2 days	**50-00105**	✓
Chloride (Cl)	70 µL urine	1-2 days	**50-00132**	✓
Creatinine (CREA)	70 µL urine	1-2 days	**50-00363**	✓
Inorganic phosphate	70 µL urine	1-2 days	**50-00453**	✓
Magnesium (Mg)	70 µL urine	1-2 days	**50-00400**	✓
Potassium (K)	70 µL urine	1-2 days	**50-00357**	✓
Sodium (Na)	70 µL urine	1-2 days	**50-00422**	✓
Total Protein (TP)	70 µL urine	1-2 days	**50-00299**	✓

Additional Clinical Chemistry Specimen Information

Serum
Serum is the fluid component of clotted blood. During clotting, coagulation factors and some other molecules from plasma are consumed, forming a new fluid called serum. Serum can only form if blood is allowed to clot and cannot be collected using an anti-coagulant. Once a blood clot has formed, the sample is then centrifuged to separate serum fluid from the cell components.

- Tube type: non-additive tubes
- Sample handling: Gently invert tube 8 to 10 times after collection. Let specimen clot for a minimum of 30 minutes and maximum 120 minutes at room temperature then centrifuge at approximately 2,000 to 2,500 rcf for 10 to 15 minutes. Afterwards, draw off serum into a sample transfer tube. Label the tube with sample ID, collection date, and sample type (serum).
- Sample storage: Store separated serum samples refrigerated at 2–8°C if shipping within 24 hours of collection. Otherwise, freeze samples in transport tubes at –20°C. Do not freeze serum separator tubes (STT).
- Sample shipping: Ship samples on cold packs or dry ice.

Other sample types
- Serum is the preferred specimen for most chemistry analytes; however, lithium heparin plasma or EDTA plasma may be used for some analytes. Please refer to the **methodology chart** for acceptable sample types.
- The supernatant of other centrifuged body fluids can also be analyzed.

Specimen Quality
Grossly hemolyzed samples may be analyzed; however, results should be reviewed carefully for possible interference effects.

Urine Submissions
The best urine specimen is obtained by cystocentesis using aseptic technique. This collection procedure prevents contamination and provides specimens for urinalysis testing and cultures.

Urine for urinalysis
- Tube type: Non-additive tube
- Sample storage: Refrigerate (2–8°C) samples. Optimal results are obtained on refrigerated samples less than 24 hours old.
- Sample shipping: Ship on cold packs but do not freeze as this may damage cells.

Urine for biochemistry analysis
- Tube type: Non-additive tube
- Sample storage: Store samples refrigerated at 2–8°C if shipping within 24 hours of collection. Otherwise, freeze samples in transport tubes at –20°C.
- Sample shipping: If shipping within 24 hours of collection, samples can be shipped refrigerated on cold packs. If frozen in storage, ship samples on cold packs or dry ice.

Methodology and Specimen Types

Most routine chemistry assays are performed on Beckman Coulter analyzers. The Beckman analyzers are fully automated, discrete, computerized chemistry analyzers intended for in vitro quantitative or qualitative determination of a wide range of analyses. They are capable of performing photometric and potentiometric assays on a variety of body fluids.

Below are some of the most common chemistry assays, methodology, and sample types. If the assay of interest is not listed below, please contact the Client Support Services (CSS) team to get more information on equipment, methodology or sample types. Reference intervals available for most tests for dogs, cats, and horses. Please contact us for more species.

Test - Unit	Method	Specimen Type
ALT (U/L)	Enzymatic, kinetic	Serum†/EDTA plasma/LH plasma
Albumin (g/L)	Bromocresol Green (BCG)	Serum†/EDTA plasma/LH plasma
Alb/Glob Ratio	Calculation	Serum†/LH plasma
ALP (U/L)	Enzymatic, kinetic	Serum†/LH plasma
Ammonia (µmlol/L)	Enzymatic test	EDTA plasma
α-Amylase (U/L)	Chromogenic substrate (CNPG3)	Serum†/LH plasma
AST (U/L)	Enzymatic, kinetic	Serum†/LH plasma
BHB (µmol/L)	BHB dehydrogenase/INT	Serum†/EDTA plasma/LH plasma
Bile acids (µmol/L)	Enzymatic, kinetic	Serum†/EDTA plasma/LH plasma
Bilirubin, Total (µmol/L)	Diazo reaction, endpoint	Serum†/LH plasma
Bromide (mg/dl)	ICP-MS	Serum†/EDTA plasma/LH plasma
BUN (mmol/L)	Enzymatic, kinetic	Serum†/Urine†/EDTA plasma/LH plasma
BUN/Creat Ratio	Calculation	Serum†/LH plasma
C-Reactive Protein—Canine (mg/L)	Immunoturbidimetric	Serum†
Calcium (mmol/L)	Non-enzymatic (Arsenazo III), endpoint	Serum†/Urine†/LH plasma
Cholinesterase (kU/L)	Colorimetry	Serum†/LH plasma
Cholesterol (mmol/L)	Enzymatic (Cholesterol Esterase/Oxidase), endpoint	Serum†/EDTA plasma/LH plasma
Creatine kinase (U/L)	Enzymatic, kinetic	Serum†/LH plasma ‡
Creatinine (µmol/L)	Alkaline Picrate /modified Jaffe	Serum†/Urine†/LH plasma
Fructosamine (µmol/L)	Nitroblue Tetrazolium (NBT), kinetic	Serum†/LH plasma
GGT (U/L)	Enzymatic, endpoint	Serum†/EDTA plasma
Globulin	Calculation	Serum†
Glucose (mmol/L)	Enzymatic (Hexokinase/G-6-PDH), endpoint	Serum†/Urine†/CSF/EDTA plasma/ LH plasma

Test - Unit	Method	Specimen Type
GLDH (U/L)	Enzymatic, kinetic	Serum†
HDL cholesterol (mg/dl)	Direct homogenous assay	Serum†/EDTA plasma/LH plasma
Inorganic phosphate (mmol(L)	Non-enzymatic, endpoint	Serum†/Urine†/LH plasma
Iron (µmol/L)	Non-enzymatic (TPTZ), endpoint	Serum†/LH plasma
LDH (U/L)	Enzymatic, kinetic	Serum†/LH plasma
LDL cholesterol (mg/dl)	Direct homogenous assay	Serum†/EDTA plasma/LH plasma
Lipase (U/L)	Enzymatic (1,2-diglyceride), kinetic	Serum†/EDTA plasma/LH plasma
Magnesium (mmol/L)	Non-enzymatic (Xylidyl Blue), endpoint	Serum†/Urine†/LH plasma
Na, K, Cl (mmol/L)	Ion-Selective Electrode (ISE)	Serum†/Urine†/LH plasma
Na/K Ratio	Calculation	Serum†/LH plasma
Total protein (g/L)	Biuret	Serum†/LH plasma ‡
T4 (nmol/L)	Enzymatic immunoassay	Serum†/EDTA plasma/LH plasma
Triglycerides (mmol/L)	Enzymatic, endpoint	Serum†/EDTA plasma/LH plasma
SDMA (µg/dL)	Enzymatic immunoassay	Serum†
Uric acid (µmol/L)	Enzymatic, endpoint	Serum†/Urine†/LH plasma
Urine/CSF protein (mg/L)	Pyrogallol Red	Urine†/CSF

† Validated sample type
‡ Plasma samples may occasionally produce falsely low results

Hematology

Hematology is an area of excellence for IDEXX BioAnalytics. We have trained technicians to review blood smears manually to ensure automated differentials are as accurate as possible and morphologic abnormalities are identified. Unless otherwise stated, the following tests can be performed on the common laboratory species.

Available components for IDEXX BioAnalytics CBC panels

Erythrogram
- Red Blood Cells (RBC)
- Hematocrit (HCT)
- Total Hemoglobin (Hb)
- Mean Corpuscular Volume (MCV)
- Mean Corpuscular Hemoglobin Concentration (MCHC)
- Mean Corpuscular Hemoglobin (MCH)

WBC differential
- White Blood Cells (WBC)
- Segmented neutrophils (% and absolute)
- Band neutrophiles (% and absolute)
- Lymphocytes (% and absolute)
- Monocytes (% and absolute)
- Eosinophils (% and absolute)
- Basophils (% and absolute)

Platelets
- Platelet Count

Reticulocytes
- Reticulocyte Count (% and absolute)

Microscopic evaluation of blood smear
- Provide WBC and RBC morphology
- Atypical cells and infectious agents will be noted

Complete Blood Count (CBC) Panels

	Small blood count	**Large blood count** (Canine, feline, equine, bovine)	**Large blood count** (Mouse, rat)
Test code	**50-00765**	**50-00645**	**50-00811**
Sample volume requirements	160 µL	160 µL	160 µL
ISO Accreditation	✓	✓	✓
RBC	•	•	•
Hb	•	•	•
HCT	•	•	•
MCV	•	•	•
MCH	•	•	•
MCHC	•	•	•
Platelet Count	•	•	•
WBC	•	•	•
WBC Differential		Automated	Automated
Microscopic evaluation of blood smear †			•
Reticulocyte Count †		•	•

† Microscopic evaluation of blood smear includes, if present:
- WBC: segmented neutrophils, band neutrophils, morphological abnormalities, and immature/precursor cells
- RBC: anisocytosis, polychromasia, poikilocytosis, and inclusion bodies
- Platelets: morphological abnormalities and clumping

Add-ons for Standard Hematology

Test name	**Specimen requirements**	**Turnaround time**	**Test code**	**ISO Accreditation**
Reticulocyte Count Add-on Automated	No additional sample volume required	1-2 days	**50-00522**	✓

Additional Hematology Sample Information

Anticoagulated whole blood
Anticoagulated whole blood is blood drawn directly from the animal. Made up of plasma, a fluid component that carries dissolved molecules, and the cellular components, such as red and white blood cells and platelets. Whole blood is drawn into a tube containing anti-coagulant so that cells do not clump together.

- Ideal specimen for most hematology services: EDTA-blood filled to the recommended level. A proper blood to anticoagulant ratio is important for accurate results.
- Tube type: EDTA tube (EB)
- Sample handling: Promptly fill and thoroughly mix. Observe fill lines to achieve proper blood to anticoagulant ratio. Mix by gently inverting tube 8 to 10 times to prevent clotting and hemolysis. Label the tube with the sample ID and collection date. If collecting blood from one animal into multiple tubes, fill the EB last to avoid contaminating other sample tubes with EDTA.
- Sample storage: Refrigerate (2–8°C) samples. Optimal results are obtained on refrigerated samples less than 24 hours old. DO NOT FREEZE. These samples degrade rapidly at room temperature and are destroyed by freezing.
- Sample shipping: Ship refrigerated on cold packs, ideally same day or day following collection. Samples received 48 hours or more past collection may show significant degradation that can affect results. Ensure samples do not come into direct contact with cold packs during shipment. Samples can be placed within an internal container to prevent freezing.

Blood sampling tips to improve sample quality:
- To avoid hemolysis, blood samples should be taken immediately after the vein has been raised.
- Avoid “pumping or milking” the blood from the vein as this can induce coagulation and erythrocyte lysis.
- Avoid high negative pressure in the syringe, as this can cause erythrocytes to rupture.
- Do not squirt blood forcefully through the syringe into the tube. Instead apply gentle pressure and allow the blood to run down the side of the tube wall.

Our Rodent Blood Collection guide contains additional information on best practices for collection and submission of hematology specimens. Please contact Client Support Services (CSS) to request a copy.

Specimen quality
Samples that are grossly hemolyzed or clotted greater than 50% will not be run. Exposure to extreme temperatures, both hot and cold, will affect the analysis of the sample.

Hematology methodology information
IDEXX BioAnalytics utilizes a SYSMEX XN for routine hematology testing. The SYSMEX XN Analyzer is a fully automated diagnostic instrument for veterinary hematology. The analyzer uses whole blood samples to provide results for CBC, differentials, and reticulocyte count testing. Other fluid types can also be analyzed as needed. Please reach out to Client Support Services if you have inquiries regarding other sample types.

Paramter	Methodology
White Blood Cell count **(WBC)**	Optical
Red Blood Cell count **(RBC)**	Impedance
Hemoglobin concentration **(HGB)**	SLS-Hemoglobin
Hematocrit **(HCT)**	Direct Measurement
Mean Corpuscular Volume **(MCV)**	Calculation
Mean Corpuscular Hemoglobin **(MCH)**	Calculation
Mean Corpuscular Hemoglobin Concentration **(MCHC)**	Calculation
Platelet count **(PLT)**	Impedance/Optical
Reticulocytes **(RET)**	Fluorescent Flow Cytometry

- The SYSMEX XN white blood cell differential (WBC DIFF) methods, consisting of a flow cytometry method with semiconductor laser using forward scattered light, side scattered light, and side fluorescent scatter light is intended to quantitatively measure the WBC differential. Reported hematological parameters are Segmented neutrophils, Band neutrophils, Lymphocytes, Monocytes, Eosinophils, Basophils, Metamyelocyte, Myelocyte, Promyelocyte, and Unclassified.

- The SYSMEX XN reticulocyte count method enumerates reticulocytes by fluorescent flow cytometry. RBCs are stained with polymethine dye. A two-dimensional scattergram of the cell volume (forward scatter) versus the amount of nucleic acid (side fluorescent scatter) is analyzed. The analyzer fractionates RBCs, reticulocytes, and platelets.

Please contact us for methods used for manually performed tests.

Coagulation Individual Tests

Test name	Specimen requirements	Turnaround time	Test code	ISO Accreditation
Prothrombin Time (PT)	250 µL cooled citrated plasma	1-2 days	**50-00517**	✓
Partial Thromboplastin Time (PTT)	250 µL cooled citrated plasma	1-2 days	**50-00512**	✓
Fibrinogen–Clauss method (with mechanical clot detection)	350 µL cooled citrated plasma	1-2 days	**50-00255**	✓
D-dimer - Non-rodent	500 µL frozen citrated plasma	1-2 days	**50-00197**	✓
Thrombin	350 µL cooled citrated plasma	1-2 days	**50-00583**	✓
von Willebrand Factor (vWF:Ag) - Canine	1 mL frozen citrated plasma or EDTA plasma	1-2 days	**50-00237**	✓
von Willebrand Factor (vWF:Ag) - Large animals, Exotics, Rodents	1 mL frozen citrated plasma or EDTA plasma	Call	**Call**	✗
Factor VIII activity - Canine Only	500 µL frozen citrated plasma	7 days	**50-00235**	✓
Factor IX activity - Canine Only	500 µL frozen citrated plasma	7 days	**50-00236**	✓
Antithrombin III - Canine Only	500 µL cooled citrated plasma	1-2 days	**50-00044**	✓

Additional Sample Information

Plasma

Plasma is the fluid component of blood. To harvest plasma, blood must be mixed with an anti-coagulant or clotting will occur rapidly, consuming molecules in the plasma that are required for testing. Blood is then centrifuged to separate plasma fluid from the cell components.

- Ideal specimen: Citrated plasma in non-additive tube
- Tube type: Sodium citrate anticoagulant then non-additive tube for storage and shipment
- Sample handling: Fill tube precisely to the line or arrow indicated on the tube for an appropriate volume. A correct blood to anticoagulant ratio is important for accurate results. Gently invert tube 10 times to mix and prevent clotting. Centrifuge as soon as possible at 1500 rfc for 15 minutes. Pipette plasma off of the cells without the disturbing the buffy coat in between and transfer into a non-additive tube. Label the tube with sample ID. Plasma cannot be transferred to another tube; the specimen will be over-diluted with sodium citrate anticoagulant.
- Sample storage: Freeze at -20°C
- Sample shipping: Ship samples on dry ice. Samples must arrive frozen to the laboratory

Other sample notes

- Sodium citrate plasma (free of tissue fluids) is required for analysis of PT, aPTT, and fibrinogen by Clauss method. Sodium oxalate, EDTA, and heparin are not suitable anticoagulants for testing and are not accepted
- The ratio of anticoagulant to blood is important. Increased or decreased volumes of anticoagulant may cause erroneous test results.
- Plasma held unnecessarily long at 2–8°C might undergo “cold activation” resulting in a significant shortening of the PT

Coagulation methodology information

IDEXX BioAnalytics utilizes Stago Compact Max analyzers for testing. This fully automated instrument uses chronometric and photometric methodologies.

Inflammatory Markers - Cytokines

Our cutting-edge multiplex technology provides sensitive, quantitative measurement of multiple cytokines and chemokines from a single sample, over a wide dynamic range. Leverage our industry-leading assay expertise, stringent quality control and assurance procedures to ensure more reliable data and reproducible results.

Test name	Specimen requirements	Turnaround time	Test code
Mouse 25-Plex Panel IL-1α, IL-1β, IL-2, IL-4, IL-5, IL-6, IL-7, IL-9, IL-10, IL12(p70), IL12(p40), IL-13, IL-15, IL-17A, G-CSF, GM-CSF, IFN-γ, IP-10, KC, MCP-1, MIP-1α, MIP-1β, MIP-2, RANTES, TNF-α	35 µL serum	10 days	**62579**
Mouse 10-Plex Panel IL-1α, IL-1β, IL-2, IL-4, IL-6, IL-10, IL-12(p70), GM-CSF, IFN-γ, TNF-α	35 µL serum	10 days	**63438**
Rat 27-Plex Panel I IL-1α, IL-1β, IL-2, IL-4, IL-5, IL-6, IL-10, IL-12(p70), IL-13, IL-17A, IL-18, EGF, Eotaxin, Fractaline, G-CSF, GM-CSF, GRO/KC, IFN-γ, IP-10, Leptin, LIX, MCP-1, MIP1α, MIP-2, RANTES, TNF-α, VEGF	35 µL serum	10 days	**62831**
Rat 10-Plex Panel IL-1α, IL-1β, IL-2, IL-4, IL-6, IL-10, IL-12(p70), GM-CSF, IFN-γ, TNF-α	35 µL serum	10 days	**63440**
Human 15-Plex Panel IL-1β, IL-2, IL-4, IL-5, IL-6, IL-8, IL-10, IL-12(p40), IL12(p70), IL-13, IL-17a, GM-CSF, IFN-γ, MCP-1, TNFα	35 µL serum	10 days	**63475**
Human 10-Plex Panel IL-1β, IL-2, IL-4, IL-6, IL-8, IL-10, IL-12(p70), GM-CSF, IFN-γ, TNFα	35 µL serum	10 days	**63468**

Additional Sample Information

- Preferred sample type: Serum
- Also accepted: EDTA plasma, cell culture supernatant. Please inquire about additional sample types.
- Tube type: Serum separator tube (STT) or Lavender top (LTT) EDTA tube.
- Sample handling: Allow serum samples to clot for 30 minutes at room temperature then centrifuge 10 minutes at 2,000 to 2,500 rcf, remove serum from clot immediately and transfer to a non-additive tube. When collecting plasma, fill tube to appropriate volume. Gently invert tube 10 times to mix and prevent clotting. Keep whole blood at 4°C until processing. Centrifuge as soon as possible at 1500 rcf for 15 minutes. Pipette plasma off the cells without disturbing the buffy coat and transfer into a non-additive tube. Label the tube with sample ID, collection date, and “EDTA plasma”. Samples must be non-hemolyzed and non-lipemic.
- Sample storage: </= -20°C, -80°C preferred. Minimize time between collection and storage (below 1 hour). Use storage tubes that are compatible with dry ice. Avoid freeze/thaw cycles.
- Sample shipping: Frozen, on dry ice to be shipped overnight. Samples must be received frozen.

Methodology information
All panels are tested on the Milliplex MAP Cytokine/Chemokine Magnetic Bead Panel according to the kit protocol as qualified. Plasma samples are diluted 1:2 in kit assay buffer prior to assay run. Data is collected using a Luminex 200 System (Luminex). This antibody-based multiplex panel is designed to measure the subset of cytokines in a minimal volume of serum, plasma or cell culture supernatant sample. This panel has been qualified for use by IDEXX BioAnalytics and the sensitivity of each analyte is available on the next page.

Inflammatory Markers - Cytokines

Mouse Analytes - Assay Range

Analyte	Assay range (pg/mL)	Analyte	Assay range (pg/mL)	Analyte	Assay range (pg/mL)
IL-1α	16.0-10,000	**IL12(p40)**	3.2-10,000	**MCP-1**	16.0-10,000
IL-1β	16.0-10,000	**IL12(p70)**	16.0-10,000	**MIP-1α**	80.0-10,000
IL-2	3.2-10,000	**IL-13**	64.0-40,000	**MIP-1β**	80.0-10,000
IL-4	3.2-10,000	**IL-15**	64.0-10,000	**MIP-2**	80.0-10,000
IL-5	3.2-10,000	**IL-17A**	3.2-10,000	**MKC**	16.0-10,000
IL-6	3.2-10,000	**IP-10**	3.2-10,000	**RANTES**	16.0-10,000
IL-7	16.0-10,000	**G-CSF**	3.2-10,000	**TNFα**	16.0-10,000
IL-9	16.0-10,000	**GM-CSF**	16.0-10,000		
IL-10	16.0-10,000	**IFN-γ**	3.2-10,000		

Rat Analytes - Assay Range

Analyte	Assay range (pg/mL)	Analyte	Assay range (pg/mL)	Analyte	Assay range (pg/mL)
IL-1α	48.8-50,000	**IL-17**	29.3-30,000	**IP-10**	9.8-10,000
IL-1β	9.8-10,000	**IL-18**	48.8-50,000	**Leptin**	58.6-60,000
IL-2	48.8-50,000	**EGF**	3.9-1,000	**LIX**	97.7-100,000
IL-4	78.1-20,000	**Eotaxin**	19.5-20,000	**MCP-1**	468.8-120,000
IL-5	78.1-20,000	**Fractalin**	9.8-10,000	**MIP-1α**	9.8-10,000
IL-6	1171.9-300,000	**G-CSF**	19.5-20,000	**MIP-2**	97.7-100,000
IL-10	29.3-30,000	**GM-CSF**	48.8-50,000	**RANTES**	4.9-20,000
IL12(p70)	195.3-50,000	**GRO KC**	234.4-60,000	**TNFα**	9.8-10,000
IL-13	19.5-20,000	**IFN-γ**	234.4-60,000	**VEGF**	19.5-20,000

Human Analytes - Assay Range

Analyte	Assay range (pg/mL)	Analyte	Assay range (pg/mL)	Analyte	Assay range (pg/mL)
IL-1β	8.0-25,000	**IL-8**	4.0-10,000	**IL-17A**	32.0-100,000
IL-2	4.0-10,000	**IL-10**	13.0-40,000	**GM-CSF**	64.0-40,000
IL-4	4.0-10,000	**IL12(p40)**	160.0-100,000	**IFN-γ**	32.0-20,000
IL-5	4.0-10,000	**IL12(p70)**	16.0-50,000	**MCP-1**	16.0-50,000
IL-6	4.0-10,000	**IL-13**	3.2-10,000	**TNFα**	32.0-10,000

Cytology, Fluid Analysis, Bone Marrow

Test name and components	Test codes	ISO Accrediation
Clinical Pathology Contributing Scientist Report Interpretation of clinical pathology data including hematology, clinical chemistry, cytology	**Call**	✗
Cytology Microscopic examination of samples submitted on glass slide(s).	**50-00183**	✓
Cytology with Fluid Analysis (except CSF) Service includes microscopic description and interpretation, as well as total protein and automated total nucleated cell count.	**50-00819**	✓
Cytology with CSF Fluid Analysis Service includes microscopic description and interpretation, as well as hemacytometer RBC, WBC count and microprotein measurements.	**Call**	✓
Bone Marrow Cytology Service includes microscopic description and Interpretation of bone marrow smears. Bone marrow submissions must be accompanied by an EDTA-anticoagulated peripheral blood sample for a CBC. Samples required include LTT for CBC and 4–10 dry (unfixed, unstained) bone marrow smears. For study submissions, inclusion of a detailed study protocol is strongly recommended.	**50-00185**	✓

Additional Sample Information

Proper collection techniques are vital for obtaining optimal results. Guidance on sample collection and handling is available through the Client Support Services and your Account Manager. A consultation with our pathologists may also be arranged, if needed.

- All smears should be individually labeled with animal ID and collection date.
- All smears should be held at room temperature. Do not refrigerate.
- Ship slides in cardboard or plastic container to prevent breaking, do not allow coolant to come in contact with specimen.
- Do not expose cytologic samples to formalin or formalin fumes.
- Body fluids including CSFs, body cavity effusions, and washes (e.g. bronchoalveolar lavage fluid) should be analyzed within 72 hours for optimal results and ideally shipped on date of collection. Refrigerate samples at 2-8°C; samples cannot be frozen. Ship on cold packs, but not in direct contact, to prevent freezing.

Custom Projects

Tailord testing plans that are as unique as your research. IDEXX BioAnalytics excels in providing customized solutions to meet the unique needs of researchers. Our team collaborates closely with clients to design and execute bespoke projects. Whether it's developing specialized assays, conducting unique studies, or integrating multiple methodologies, we ensure precise and reliable results. With a commitment to quality and rapid turnaround times, IDEXX BioAnalytics delivers actionable insights, helping researchers achieve their specific goals and advance their scientific discoveries.

Quality Assurance
- Stringent quality control measures guarantee reliable and reproducible outcomes.

Expert Team
- Experienced scientists deliver high-quality, insightful analysis for bespoke studies.

Rapid Turnaround
- Efficient processes ensure timely delivery of results for critical projects.

Comprehensive Services
- End-to-end support from project design to data interpretation.

Advanced Technologies
- Cutting-edge tools provide precise, reliable results for custom projects.

Histology Core Services

We offer a wide variety of services to fit your needs. We accept fresh, snap frozen, or fixed whole organs or trimmed tissues, formalin fixed paraffin embedded tissue blocks, or even prepared unstained slides for staining.

Fixed Tissue Submitted as Untrimmed Tissues / Trimmed Tissues in Labeled Cassettes
Embedding Only (price per block)
Unstained Slide
Hematoxylin and Eosin (H&E) Stained Slide
Immunohistochemistry (IHC) Stained Slide † (see special stains list)
Special Stained Slide (see special stains list)

Tissue Submitted in Paraffin Blocks
Unstained Slide
Hematoxylin and Eosin (H&E) Stained Slide
Immunohistochemistry (IHC) Stained Slide † (see special stains list)
Special Stained Slide (see special stains list)

Additional Procedures
Decalcification (per tissue)
Special embedding (cell suspensions, small tissues, special orientation organoids) using agarose gel
Special embedding of large animal tissues (e.g., eyes, bones)

Frozen Tissue Submitted as Untrimmed Tissue or in OCT Blocks
Unstained Slide
Hematoxylin and Eosin (H&E) Stained Slide
Special Stained Slide (see special stains list)

Other Services
Processing of Light-Sensitive Frozen Specimens
Special Embedding Procedures in OCT
Digital Slide Scanning

Histology Slide Preparation Service Turnaround Times

Turn-around-time is dependent on study size and laboratory queue. Please contact us with study details to discuss specific needs. Typical turn-around-times are listed below:

- 2 weeks (10 working days) for routine slide preparation.
- 4–5 weeks for large studies or specialized embedding or sectioning requests. Call for more specific information.
- 3–day advance notice is recommended in order to guarantee your turnaround times.
- A STAT service may be available. Please call us for additional information.

† Slide preparation performed by IDEXX BioAnalytics, IHC staining performed at qualified vendor laboratory.

Immunohistochemistry (IHC) Biomarker List

Indication	Antibody Name	Species
Apoptosis/Cell Death	Cleaved Caspase 3	Mouse; Rat; Canine; Porcine
Apoptosis/Cell Death	TUNEL	Mouse; Porcine; Human
Bone	Cathepsin K	Ovine
Cardiovascular & Lymphatic	Cardiac Troponin T	Rat; Porcine
Cardiovascular & Lymphatic	CD32	Mouse; Rat; Feline; Canine; Caprine; Ovine; Porcine; Human
Cardiovascular & Lymphatic	CX43	Rat
Cardiovascular & Lymphatic	Von Willebrand Factor (vWF)	Canine; Ovine; Porcine; Non-Human Primate; Human
Cell Adhesion Molecule	CD144	Human
Cell Adhesion Molecule	E-Cadherin	Canine; Feline; Equine
Cell Cycle	P21	Rat
Cell Cycle	P63	Human; Porcine
Coagulation	Factor VIII	Canine; Feline
Coagulation	Von Willebrand Factor (vWF)	Canine; Ovine; Porcine; Non-Human Primate; Human
Collagen	Collagen I	Human; Porcine
Collagen	Collagen II	Human; Ovine
Collagen	Collagen III	Human
Collagen	Collagen IV	Human
Complement	Complement Factor H	Rabbit; Human
Complement	Complement Factor I	Rabbit; Human
Cytokeratins	Cytokeratin 14	Porcine; Human
Cytokeratins	Cytokeratin 4	Porcine; Human
Cytokeratins	Cytokeratin AE1/AE3	Canine; Feline
Endocrine	Calcitonin	Canine; Feline
Endocrine	Insulin	Porcine; Human
Endocrine	PTH	Canine; Feline
Endocrine	TTF-1	Canine; Feline
Human Cell Markers	Human Alu Sequence (via ISH)	N/A
Human Cell Markers	Human Mitochondria	N/A
Human Cell Markers	Human Mitochondria	N/A
Immunology/Inflammation	CD163	Porcine; Human
Immunology/Inflammation	CD18 Canine	Canine
Immunology/Inflammation	CD18 Feline	Feline
Immunology/Inflammation	CD20	Canine; Feline; Equine
Immunology/Inflammation	CD3	Canine; Feline; Equine; Porcine; Mouse
Immunology/Inflammation	CD34	Canine; Feline; Rat
Immunology/Inflammation	CD45	Human
Immunology/Inflammation	CD68	Mouse; Rat; Porcine; Human; Non-Human Primate
Immunology/Inflammation	cKIT (CD117)	Canine; Feline
Immunology/Inflammation	Fas Receptor (CD95)	Human
Immunology/Inflammation	Granzyme B	Canine; Feline; Non-Human Primate; Human
Immunology/Inflammation	HAM56	Ovine
Immunology/Inflammation	Human IgG	Human
Immunology/Inflammation	ITGA5	Porcine
Immunology/Inflammation	Monkey IgG	Non-Human Primate
Immunology/Inflammation	MPO	Rat; Mouse; Canine
Immunology/Inflammation	MUM1	Canine; Feline; Equine
Immunology/Inflammation	PAX5	Canine; Feline; Equine; Rabbit
Immunology/Inflammation	S100A9 / MRP-14	N/A
Infectious Disease	Feline Corona Virus	N/A
Intermediate Filaments	Desmin	Canine; Feline
Intermediate Filaments	Vimentin	Canine; Feline; Equine; Human
Lysosome	CD107a / LAMP1	Mouse
Melanocyte marker	SOX10	Canine
Melanocyte marker	Melanoma – PNL2	Canine; Feline
Miscellaneous	Beta tubulin	Porcine
Miscellaneous	cMAF	Porcine
Miscellaneous	MYH11	Porcine
Miscellaneous	MYL1 (MY32)	Porcine
Muscle	Alpha-Smooth Muscle Actin (SMA)	Mouse; Rat; Rabbit; Feline; Canine; Porcine; Ovine; Equine
Muscle	MYH11	Porcine
Muscle	MYL1 (MY32)	Porcine
Muscle	SM22alpha / Transgelin	Porcine
Nervous System	GAP43	Porcine
Nervous System	GFAP	Mouse; Rat; Canine; Porcine
Nervous System	IBA-1	Canine; Feline; Ovine; Porcine
Nervous System	Neurofilament-Heavy Chain	Rat; Porcine
Nervous System	PGP9.5	Canine
Nervous System	S100B	Mouse; Porcine; Human
Nervous System	Synaptophysin	Canine; Feline
Nervous System	Tyrosine Hydroxylase	Canine; Porcine; Non-Human Primate
Neuroendocrine	Chromogranin A	Canine; Feline
Neuroendocrine	PGP9.5	Canine
Oncology	Melan A /Mart-1	Canine; Feline
Oncology	Melanoma – PNL2	Canine; Feline

Immunohistochemistry (IHC) Biomarker List (continued)

Indication	Antibody Name	Species
Oncology	Melanoma – PNL2	Canine; Feline
Oncology	PSMA	Human
Oncology	SATB2	Canine
Oncology	Tryptase	Canine
Oncology	TTF-1	Canine; Feline
Proliferation	BRDU	N/A
Proliferation	Ki67	Mouse; Rat; Canine; Porcine; Feline
Reporter Molecular/Tags	GFP	N/A
Reporter Molecular/Tags	mCherry	N/A
Reporter Molecular/Tags	PEG	N/A
Reporter Molecular/Tags	Turbo GFP	N/A
Transcription Factors	MUM1	Canine; Feline; Equine

Please call if your ideal IHC stain is not listed. We may be able to accommodate your request.

Histochemical Stains

Stain	Purpose
Alcian Blue (pH 1.0 or pH 2.5) with or without PAS	Carbohydrates/Mucin
Alizarin Red S	Calcium
Churukian's Ammoniacal Silver Method (PcAg)	Pneumocystis (lung)/Fungi
Congo Red Amyloid	Amyloid
Cresyl Violet—Nissl	Neurons/Pituitary
Giemsa	Microorganisms/Nuclear Elements
Glycogen-Digested PAS/H	Carbohydrates/Mucin
Gram's (modified Brown-Hopps)	Microorganisms
Grocott methenamine silver (GMS)	Microorganisms
Hall's Bilirubin	Bile
Hematoxylin and Eosin (H&E)	Nuclear/Cytoplasmic
Luxol Fast Blue (LFB)	Neuro/Pituitary
Methylene Blue	Nuclear Elements
Movat's Pentachrome	Connective/Muscle
Oil Red O (frozen tissue only)	Lipids
Periodic Acid-Schiff (PAS)	Microorganisms/Neuro/Pituitary
Picrosirius Red	Collagen
Prussian blue (Perl's Iron)	Iron (Hemosiderin)
Rhodanine (Copper)	Copper
Safranin-O	Cartilage
Steiner (modified)	Microorganisms
Toluidine Blue	Nuclear Elements
Trichrome—Masson's	Connective/Muscle
Verhoeff Van Gieson (VVG)	Connective/Muscle/Elastic
Von Kossa	Calcium
Ziehl-Neelsen (AFB)	Acid-fast bacteria

Please call if your ideal stain is not listed. We may be able to accommodate your request.

Formalin Fixed Sample Preparation

IDEXX BioAnalytics recognizes that sample quality is directly correlated to the quality of slides and/or pathological report you will receive. In order to receive the best results, we recommend following the guidelines for tissue collection, preservation and shipping. Please contact us with questions about our standard practices or to discuss customized protocols for your upcoming study.
Our Histopathology Collection guide contains additional information on best practices for collection and shipping of fixed tissue. Please contact CSS to request a copy.

Contact your local Account Manager, or Client Support Services at idexxbioanalytics-europe@idexx.com for further assistance.

Collected Sample Preparation

- Place tissues in formalin for at least 24 hours before shipment. Tissue to formalin ratio should be 1 to 20 for proper fixation. Whole rodent and tissues such as lung, brain, bone marrow and spinal cord have specialized collection protocols.
- Make sure tissues are not tightly packed in jars or cassettes. Smaller tissues can be placed in a cassette or submitted attached to surrounding organs.
- Label cassettes with a pencil. Even indelible ink will fade during processing.
- Tissues can be shipped in formalin. If you plan to perform IHC testing after preparation, please consult with our Client Support Services team for the proper fixation protocol.
- Store fixed samples at room temperature. Frozen samples must be stored and shipped on dry ice.

Packing for Shipment

To preserve sample integrity and prevent leakage samples should be triple-bagged with each layer tied, knotted or secured individually.

- Screw-topped containers are preferred. Make sure the lid is tightly secured to the jar and place a layer of Parafilm or tape to secure the lid to the jar.
- Invert the jar to check for leaks and reseal if needed.
- Place jar(s) into 3 liter sealable bag with absorbent material such as paper towels and seal the bag.
- Place samples in a sealable bag in a second sealable bag and seal or double-line (one bag inside of another) the shipping box with large bags and tie off each bag separately.
- Prior to knotting the first bag, place absorbent packing materials around the bagged samples to not only absorb any leaked fluid but to prevent jostling and stabilize samples during shipment.
- If sample jars are too large to seal in a 3 liter sealable bag, you can also use bags to triple line the shipping container. Absorbent material should be placed around the samples in the first garbage bag prior to tying a knot in the bag.
- Place the Histology Submission Form(s) or online submission packing slip and other supporting documents (if needed) on the outside of the second bag. Do not tape the inventory form to the outside of the box or place with samples in the same sealable bag.

We welcome you to submit diagrams or other special instructions if you would like to customize your study. We also have experience with a wide variety of research animal models. Consult with us to help determine the best collection and shipping protocol for your research application.

Pathology Services - Preclinical and Research

Our team of veterinary pathologists has extensive experience and expertise with a wide variety of research models. Our pathologists are available to consult on study design, sample collection, tissue scoring options, troubleshooting unexpected challenges, and interpreting study results in order to produce meaningful data, identify treatment related effects, and advance your research.

We employ standardized tissue trimming guidelines and toxicologic pathology nomenclature when processing and interpreting tissue samples. As with our histology services, we are flexible and will accept trimmed or untrimmed tissues or carcasses and also will evaluate both IDEXX BioAnalytics prepared slides or glass or digital slides prepared elsewhere. Histopathological findings are presented as a formal Contributing Scientist Report.

Research and Toxicology Pathology Services

Test name and components
Slide Preparation Slides can be prepared from trimmed/untrimmed tissues, tissues pre-embedded in blocks or from whole carcasses for an additional charge.
Anatomic Pathologist Evaluation Pathologist evaluation of tissue, as well as one initial pathologist project consult and one study Contributing Scientist Report. Charges for evaluation vary depending on evaluation criteria and needs of the study. Other fees may include special stains, morphometric analyses, and shipping costs for return of samples.
Additional Anatomic Pathologist Support Additional pathologist consultation, edits and revision on reports, interim reports
Annotated Digital Images (available via cloud service)
Non-Annotated Digital Images (available via cloud service)
Whole Slide Imaging
Necropsy Support
Contributing Scientist Report Combined interpretation of anatomic and clinical pathology data including hematology, clinical chemistry, cytology
Peer Review

Model Development

Test name and components	Turnaround time	Test code
Rodent Model Development (per animal) Trimming and embedding of wet tissues (up to 5 tissues), decalcification as needed, H&E slide preparation, special slide stain preparation as needed, pathologist evaluation and interpretation on a final report. IHC slides, dissection of tissues from fresh or fixed carcass and return shipping requests will result in an additional charge.	10 days	**63809**

Candidate Selection

Test name and components	Turnaround time	Test code
Candidate Selection Histopathology (per animal) Trimming and embedding of wet tissues (up to 10 organs), decalcification as needed, H&E slide preparation, pathologist evaluation with semi-quantitative grading and interpretation on a final report. Special stained slides, IHC slides, dissection of tissues from fresh or fixed carcass and return shipping requests will result in an additional charge.	3 weeks	**63810**

Diagnostic Histopathology

Our team of veterinary pathologists has extensive experience and expertise with health monitoring, disease surveillance, and the investigation of unexpected diseases or outcomes. Our pathologists can evaluate tissues in all species of research animals from aquatic species to rodents, in or outside a study. We can accept trimmed or untrimmed tissues, or whole carcasses.

Our team of veterinary pathologists, laboratory animal veterinarians, and other scientific experts work collaboratively to help guide sample submission to maximize diagnostic yield, facilitate diagnosis, and quickly identify potential interventions or disease management strategies.

A diagnostic pathology report will be available within 10 working days from receipt of specimen. Providing a complete history such as clinical signs, clinical diagnosis, strain or model, and clinical or experimental manipulations will expedite reporting. Turnaround times may be delayed if a complete history is not provided.

Diagnostic Pathology Services

Test name and components	Test codes
Diagnostic Pathology – Rodent Species Mouse, rat, gerbil, hamster, other (smaller than guinea pig)	**86-00068**
Pathology Evaluation of Digital Slides – Rodent Species Mouse, rat, gerbil, hamster, other (smaller than guinea pig)	**86-00070**
Whole Carcass Necropsy – Fixed carcass Mouse, rat, guinea pig, rabbit, and other limited species. Please call for more details	**86-00076**
Biopsy with Microscopic Description – 1 site Please call for species available	**63621**
Biopsy with Microscopic Description – 2 sites Please call for species available	**63622**
Bone Marrow Histopathology Evaluation – 1 site In-life collection of bone marrow (core) biopsies from dogs, cats, ruminants, horses in colonies or on-study that have clinicopathologic evidence of hematologic pathology or hematotoxicity. Submission of contemporaneous CBC and bone marrow cytology recommended.	**63736**

Test name and components	Test codes
Diagnostic Pathology – Medium/Large Species Guinea pig, rabbit, ferret, chinchilla, porcine, ovine, equine, canine, bovine, caprine or other species	**86-00090**
Diagnostic Pathology – Avian/Reptile Species Bird, other	**86-00092**
Diagnostic Pathology – Aquatic Species Xenopus, frogs, axolotl, newts, salamanders, other	**86-00087**
Zebrafish Pathology	**86-00022**
Small Fish Pathology Fish (non zebrafish), medaka (0-6cm)	**86-00048**
Medium Fish Pathology Bettas, cavefish, goldfish, killifish (7-13cm)	**86-00049**
Large Fish Pathology Carp, large goldfish, other (over 13cm)	**86-00061**

Microbiology

Test name and components	Specimen requirements	Turnaround time	Test code	ISO Accreditation
Aerobic Culture	Two culturettes or sterile container (no formalin); please specify source	Up to 4 days for negative results, longer depending on growth	**50-00495**	✓
Anaerobic Culture	Two culturettes or sterile container (no formalin); please specify source	Up to 4 days for negative results, longer depending on growth	**50-00496**	✓
Fungal Culture	Culturette, hair/skin scrapings in plastic tube or RTT; fresh tissue in sterile container (no formalin); feed/bedding in closed container/ bag; specify site	Checked weekly; final report usually by 2–3 weeks, depending on growth	**Call**	✓
Gram Stain	Slide, culturette or sterile container	2-3 days	**50-00317**	✓
Urine Culture	1 mL urine in a sterile container (WTT and collection by cystocentesis preferred)	1–2 working days for negative results, longer depending on growth	**50-00728**	✓
Pathogen Identificaton	no additional sample required		**50-00094**	✓
Antibiogram	no additional sample required		**50-00004**	✓

Parasitology & Immunology

Test name and components	Specimen requirements	Turnaround time	Test code	ISO Accreditation
Antinuclear Antibody (ANA) by IFA	1 mL serum	1-2 days	**50-00519**	✓
Cardiopet® proBNP Test–Canine, Feline	1 mL EDTA plasma	1-3 days	**50-00078**	✓
Cryptosporidium Antigen by ELISA–Mammals	3–5 g fresh feces in a clean, plastic container or formalin	1-2 days	**50-00706**	✓
Fecal Occult Blood	3–5 g fresh feces in a clean, plastic container	1-2 days	**50-00074**	✗
FeLV Antigen and FIV Antibody by ELISA	1 mL serum or plasma	1-2 days	**50-00368**	✓
FeLV Antigen by ELISA	1 mL serum or plasma	1-2 days	**50-00248**	✓
FIV Antibody by ELISA	1 mL serum or plasma	1-2 days	**50-00264**	✓
Giardia Antigen–Mammals	3–5 g (0.2 g minimum) fresh feces in a clean plastic container	1-2 days	**Call**	✓
Heartworm Antigen by ELISA–Canine	1 mL serum	1-2 days	**Call**	✓
Lyme Quant C6® Antibody by ELISA	1 mL serum	2-4 days	**50-00068**	✓
Spec fPL® Test–Feline	1 mL serum (fasted preferred)	1-2 days	**50-00270**	✓
Spec cPL® Test–Canine	1 mL serum (fasted preferred)	1-2 days	**50-00155**	✓

Microbiology Sampling Preparation and Handling Guide

IDEXX BioAnalytics recognizes that sample quality is directly correlated to receiving quality results. We recommend to consult the Client Support Servies team before sample collection and submission. Please specify source for all cultures. IDEXX BioAnalytics provides collection supplies

Endocrinology

Test name and components	Specimen requirements	Turnaround time	Test code	ISO Accreditation
ACTH Stimulation (One Pre, One Post)–Canine/Feline	1 mL serum per specimen; label tubes as “pre” and “post”	1-2 days	**50-00008**	✓
ACTH, Endogenous–Canine and Feline Only	1 mL EDTA plasma, frozen, Collect after overnight fast	1-2 days	**50-00006**	✓
Cortisol–Canine and Feline Only	1 mL serum	1-2 days	**50-00147**	✓
IGF-1–Canine and Feline Only	1 mL serum		**50-00553**	✓
Insulin by RIA–Feline and Ferret Only	1 mL serum	7-10 days	**50-00352**	✓
Progesterone-17-OH by RIA	1 ml serum	7-14 days	**50-00447**	✓
TSH, Endogenous–Canine Only	1 mL serum	1-2 days	**50-00603**	✓
T3, Total	1 mL serum	1-2 days	**50-00567**	✓
T4, Free by Equilibrium Dialysis	1 mL serum	1-2 days	**50-00277**	✓
T4, Total - Canine, Feline, Equine Only	80 µ serum	1-2 days	**50-00569**	✓

RealPCR Molecular Diagnostics

Anaplasma spp.	Coccidioides spp.	Haemobartonella
Babesia spp	Cryptococcus spp	Hepatozoon spp.
Bartonella spp	Cryptosporidium spp	Histoplasma capsulatum
Bordetella bronchiseptica	Cytauxzoon felis	Lawsonia intracellularis
Borrelia spp. (Lyme disease)	Distemper Virus (CDV)—Canine	Leishmania spp
Blastomyces dematitidis	Echinococcus spp.	Leptospira spp
Brucella canis	Ehrlichia spp.	Mycoplasma cynos
Campylobacter coli	Equine Protozoal Myeloencephalitis (EPM)	Mycoplasma felis
Campylobacter jejuni	Equine Arteritis Virus (EAV)	Neorickettsia risticii
Canine Adenovirus Type 2	Equine Coronavirus	Neospora spp.
Canine Enteric Coronavirus (CECoV)	Equine Herpesvirus	Parvovirus 2 (CPV-2)–Canine
Canine Hemotropic Mycoplasma	Equine Influenza Virus (EIV/H3N8)	Rhodococcus equi
Canine Herpesvirus Type 1 (CHV-1)	Equine Rotavirus	Rickettsia rickettsii
Canine Influenza Virus (H3N8)	Feline Calicivirus	Rotavirus
Canine Parainfluenza Virus	Feline Coronavirus (FCoV)	Salmonella spp
Canine Respiratory Coronavirus (CRCoV)	Feline Hemotropic Mycoplasma	Streptococcus equi
Chlamydophila felis	Feline Herpesvirus Type 1 (FHV-1)	Streptococcus equi subsp. zooepidemicus
Clostridium difficile Toxin A Gene	Feline Panleukopenia Virus	Toxoplasma gondii
Clostridium difficile Toxin B Gene	FeLV	Tritrichomonas foetus
Clostridium perfringens Enterotoxin A (CPEA)	FIV	West Nile Virus
Clostridium perfringens Enterotoxin (CPE)	Giardia spp	

We offer additional PCR tests not listed. Please contact the Client Support Services team if you do not see a specific test listed.

Send-out Testing with Third-Party Reference Laboratory

To achieve the IDEXX BioAnalytics' goal of supplying the best results possible, we contract some additional testing out to other external laboratory resources. IDEXX BioAnalytics will continue to support any in-house testing, while managing the send-out tests needed for your research work as well, by providing a single contact to simplify your lab testing needs.

Endocrinology

Test name and components	Specimen requirements	Test code
Aldosterone - Canine, Feline	500 µL serum	**50-00018**
Insulin by RIA - Feline	1 mL frozen serum	**Call**
Insulin by RIA - Ferret	1 mL frozen serum	**Call**
Cortisol- NHP, Rodents, Cattle, FBS accepted	1 mL serum or plasma	**Call**
Oestradiol by RIA - Canine, Feline	1 mL serum	**Call**
Testosterone by RIA - Canine, Felina	1 mL serum	**Call**
Serotonin - Canine	Call	**Call**

Other

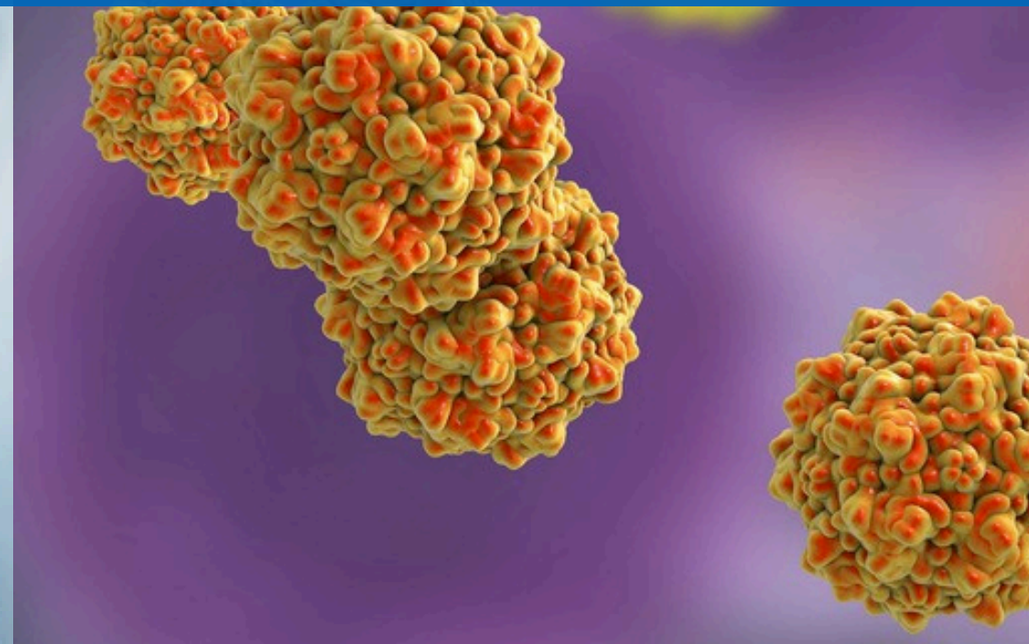
Test name and components	Specimen requirements	Test code
Immunoglobulins, Quantitative IgG, IgM, IgA–Canine	1 mL serum	**Call**

Veterinary Clinical Trials

Expect the highest quality research-focused support from the world's leader in veterinary diagnostics.

+ **Testing Capabilities**
+ **Study Management**
+ **Data-Driven Enrollment**
+ **Regulatory Compliance**
+ **Scientific Support**

Health Monitoring



Animal Health Monitoring and Quarantine Screening

Science and Support to Ensure Animal Health and Research Integrity

With IDEXX BioAnalytics health monitoring solutions, expect exceptional customer support and prompt turnaround times to keep your research on track.

You gain direct access to ACLAM board-certified veterinarians for expert guidance and quick, accurate results.

You benefit from a broad portfolio of tests and services, rigorous quality procedures, and superior rodent and aquatic expertise, ensuring reliable and comprehensive solutions for your needs.

Our flexibility caters to a wide range of species, with specialized environmental health screening solutions for rodents: Our REPLACE™ technology is superior to other market options, providing efficient, ethical, and precise data.

2026 Directory of Tests and Services

Environmental Health Monitoring

Mouse EDx FELASA Panels
Rat EDx FELASA Panels

Sentinel Health Monitoring

Mouse FELASA Panels
Rat FELASA Panels

Direct Colony Sampling and Quarantine Testing

Mouse Quarantine FELASA Panels
Rat Quarantine FELASA Panels

Other Rodents and Rabbit Health Monitoring

Guinea Pig HM-Panels
Hamster HM-Panels
Rabbit HM-Panels
Chinchilla HM-Panels

Real-Time PCR

Additional Mouse/Rat PCR Panels
Additional Guinea Pig/Hamster PCR Panels

Individual Test Assays

Individual Rodents & Rabbits Serology Assays
Individual Rodents & Rabbits PCR Assays

Histology & Pathology

Rodent Diagnostic Histopathology
Aquatics Diagnostic Histopathology

Microbiology

Microbiome & Germ-Free

Aquatics Health Monitoring

Zebrafish PCR & Microbiology Panels
Axolotl PCR & Microbiology Panels
Xenopus PCR & Microbiology Panels
Aquatics Diagnostic Histopathology
Individual Aquatics PCR Assays

Superior rodent colony environmental health monitoring

+ Eliminates the need for soiled bedding sentinels
+ Improved pathogen detection
+ Easy to use
+ No additional equipment or supply costs
+ Rigorous quality control

Health Monitoring & Quarantine Solutions - Flexible approaches for different needs

Our health monitoring methods can play a key role in allowing you to **Replace** the use of animals with alternative testing techniques, **Reduce** the number of animals used to a minimum, and **Refine** the way health monitoring is done. Microbial screening of rodent colonies can be performed in two main ways:

- **PCR-based:** for programs employing environmental health monitoring on all housing system types, detection of pathogens shed in quarantine or by immunodeficient animals.
- **PCR+Serology:** for programs evaluating sentinel animals, screening animals for past exposure, or in combination with PCR-based pathogen detection.

Health Monitoring Solutions	Methodology	Sample Type	Recommended test panel
Routine health monitoring in IVC rack with filtration at rack level (e.g. Tecniplast, Allentown)	Serology + PCR	Samples from animal - Opti-Spots™, Feces, Pelt swabs	Health Monitoring Panels (SBS, DCS)
	PCR	Environmental samples collected with REPLACE™	EDx Panels (EDT, SFSB)
	PCR	Environmental samples collected at rack level (e.g., Interceptor™, Sentinel™)	EDx Panels (EDT)
Routine health monitoring in IVC rack with filtration at cage level (e.g. Thoren, Animal Care System, Innovive), **open filter top cages**	Serology + PCR	Samples from animal - Opti-Spots™, Feces, Pelt swabs	Health Monitoring Panels (SBS, DCS)
	PCR	Environmental samples collected with REPLACE™	EDx Panels (SFSB)

Quarantine Solutions	Methodology	Sample Type	Recommended test panel
Assessing animals for active infection or prior pathogen exposure	Serology + PCR	Samples from animal - Opti-Spots™, Feces, Pelt swabs, Oral swabs	Quarantine Panels (SBS, DCS)
Assessing animals for active infection	PCR	Samples from animal - Feces, Pelt swabs, Oral swabs	Quarantine Panels (SBS, DCS)

Soiled Bedding Sentinels (SBS) = traditional rodent health monitoring using live rodents/sentinels exposed to soiled bedding.
Environmental Health Monitoring (EHM) = any environmental sample collected and analyzed for rodent pathogens by PCR-based testing.
Exhaust Dust Testing (EDT) = EHM via swabbing plenums or using in-line media for cages that filter at the rack level.
Sentinel-Free Soiled Bedding (SFSB) = EHM via transferring soiled bedding & testing without live sentinel animals. This includes single event exposure or indwelling media/swabs.
Direct Colony Sampling (DCS) = collection of samples such as feces, oral swabs or pelt swabs from colony animals.

Mouse PCR Panels for Environmental Testing

Environmental sample (E) (do not submit other samples for PCR to avoid duplicate testing)

	Preferred Sample Type(s)	3R EDx Quarterly	3R EDx Annual	3R EDx Quarterly SOPF	3R EDx Annual SOPF
Turnaround time		4-5 days	4-5 days	4-5 days	4-5 days
Test code		**21-00196**	**21-00198**	**21-00242**	**21-00197**
Mouse parvovirus (MPV1-5)	E	•	•	•	•
Minute virus of mice (MVM)	E	•	•	•	•
Mouse hepatitis virus (MHV)	E	•	•	•	•
Murine norovirus (MNV)	E	•	•	•	•
Theiler's murine encephalomyelitis virus (TMEV)	E	•	•	•	•
Mouse rotavirus (MRV/EDIM)	E	•	•	•	•
Mycoplasma pulmonis	E		•		•
Mouse adenovirus (MAV1)	E		•		•
Mouse adenovirus (MAV2)	E		•		•
Reovirus 3 (REO3)	E		•		•
Lymphocytic choriomeningitis virus (LCMV)	E		•		•
Ectromelia virus (ECTRO)	E		•		•
Sendai virus (SEND)	E		•		•
Pneumonia virus of mice (PVM)	E		•		•

continued	Preferred Sample Type(s)	3R EDx Quarterly	3R EDx Annual	3R EDx Quarterly SOPF	3R EDx Annual SOPF
Rodentibacter heylii	E	•	•	•	•
Rodentibacter pneumotropicus	E	•	•	•	•
Streptococcus ß-hemolytic Group A, B, C, G	E	•	•	•	•
Corynebacterium kutscheri	E		•		•
Mycoplasma pulmonis	E		•		•
Streptococcus pneumoniae	E	•	•	•	•
Streptobacillus moniliformis	E		•		•
Filobacterium rodentium	E			•	•
Bordetella bronchiseptica	E			•	•
Staphylococcus aureus	E			•	•
Helicobacter spp. H.bilis, H.ganmani, H.hepaticus, H.mastomyrinus, H.rodentium, H.typhlonius	E	•	•	•	•
Citrobacter rodentium	E		•		•
Clostridium piliforme	E		•		•
Salmonella spp.	E		•		•
Klebsiella oxytoca	E			•	•
Klebsiella pneumoniae	E			•	•
Pseudomonas aeruginosa	E			•	•
Proteus mirabilis	E			•	•
Chilomastix spp.	E	•	•	•	•
Cryptosporidium spp.	E	•	•	•	•
Eimeria sp.	E	•	•	•	•
Entamoeba muris	E	•	•	•	•
Giardia muris	E	•	•	•	•
NEW Hexamastix muris	E	•	•	•	•
Spironucleus muris	E	•	•	•	•
Tritrichomonas muris	E	•	•	•	•
Pinworms (S.muris, S.obvelata, A.tetraptera)	E	•	•	•	•
Fur mites (Myocoptes, Myobia, Radfordia spp.)	E	•	•	•	•

Sample Type Legend
E = Environmental sample

Rat PCR Panels for Environmental Testing

Environmental sample (E) (do not submit other samples for PCR to avoid duplicate testing)

	Preferred Sample Type(s)	3R EDx Quarterly	3R EDx Annual	3R EDx Quarterly SOPF	3R EDx Annual SOPF
Turnaround time		4-5 days	4-5 days	4-5 days	4-5 days
Test code		**21-00199**	**21-00200**	**21-00243**	**21-00201**
Rat parvovirus (RPV)	E	●	●	●	●
Rat minute virus (RMV)	E	●	●	●	●
Kilham's rat virus (KRV)	E	●	●	●	●
Toolan's H-1 virus (H-1)	E	●	●	●	●
Rat theilovirus (RTV)	E	●	●	●	●
Rat coronavirus/Sialodacryoadenitis virus (RCV/SDAV)	E	●	●	●	●
Sendai virus (SEND)	E		●		●
Pneumonia virus of mice (PVM)	E	●	●	●	●
Reovirus type 3 (REO3)	E		●		●
Hantaan virus (HANT)	E		●		●
Seoul virus (SEOV)	E				
Mouse adenovirus (MAV1)	E				
Mouse adenovirus (MAV2)	E				

continued	Preferred Sample Type(s)	3R EDx Quarterly	3R EDx Annual	3R EDx Quarterly SOPF	3R EDx Annual SOPF
Rodentibacter heylii	E	●	●	●	●
Rodentibacter pneumotropicus	E	●	●	●	●
Streptococcus ß-hemolytic Group A, B, C, G	E	●	●	●	●
Corynebacterium kutscheri	E			●	●
Mycoplasma pulmonis	E	●	●	●	●
Streptococcus pneumoniae	E	●	●	●	●
Streptobacillus moniliformis	E		●		●
Filobacterium rodentium	E		●		●
Bordetella bronchiseptica	E			●	●
Staphylococcus aureus	E			●	●
Pneumocystis carinii	E		●		●
Helicobacter spp. H.bilis, H.ganmani, H.hepaticus, H.mastomyrinus, H.rodentium, H.typhlonius	E	●	●	●	●
Clostridium piliforme	E	●	●	●	●
Salmonella spp.	E		●		●
Klebsiella oxytoca	E			●	●
Klebsiella pneumoniae	E			●	●
Pseudomonas aeruginosa	E			●	●
Proteus mirabilis	E			●	●
Chilomastix spp.	E	●	●	●	●
Cryptosporidium spp.	E	●	●	●	●
Eimeria sp.	E	●	●	●	●
Entamoeba muris	E	●	●	●	●
Giardia muris	E	●	●	●	●
NEW Hexamastix muris	E	●	●	●	●
Spironucleus muris	E	●	●	●	●
Tritrichomonas muris	E	●	●	●	●
Pinworms (S.muris, S.obvelata, A.tetraptera)	E	●	●	●	●
Fur mites (Myocoptes, Myobia, Radfordia spp.)	E	●	●	●	●

Sample Type Legend
E = Environmental sample

Mouse Serology Panels to be combined with PCR Panels

	Preferred Sample Type(s)	Parvovirus	Global	3R FELASA Quarterly	3R FELASA Annual
Turnaround time		4 days	4 days	4 days	4 days
Test code		**23-00065**	**23-00061**	**23-00053**	**23-00054**
Mouse parvovirus (MPV1-5)	Opti-Spot®	•	•	•	•
Minute virus of mice (MVM)	Opti-Spot®	•	•	•	•
Mouse hepatitis virus (MHV)	Opti-Spot®		•	•	•
Murine norovirus (MNV)	Opti-Spot®		•	•	•
Theiler's murine encephalomyelitis virus (TMEV)	Opti-Spot®		•	•	•
Mouse rotavirus (MRV/EDIM)	Opti-Spot®		•	•	•
Sendai virus (SEND)	Opti-Spot®		•		•
Mycoplasma pulmonis	Opti-Spot®		•		•
Pneumonia virus of mice (PVM)	Opti-Spot®		•		•
Reovirus 3 (REO3)	Opti-Spot®		•		•
Lymphocytic choriomeningitis virus (LCMV)	Opti-Spot®		•		•
Ectromelia virus (ECTRO)	Opti-Spot®		•		•
Mouse adenovirus (MAV1)	Opti-Spot®		•		•
Mouse adenovirus (MAV2)	Opti-Spot®		•		•
Mouse polyomavirus (MPyV)	Opti-Spot®		•		
Encephalitozoon cuniculi (ECUN)	Opti-Spot®		•		
Filobacterium rodentium	Opti-Spot®		•		
Clostridium piliforme	Opti-Spot®		•		•
Mouse cytomegalovirus (MCMV)	Opti-Spot®		•		
K virus (K)	Opti-Spot®		•		
Hantaviruses (Hantaan & Seoul)	Opti-Spot®		•		
Lactate dehydrogenase-elevating virus (LDV)	Opti-Spot®		•		
Mouse thymic virus (MTV)	Opti-Spot®		•		

Sample Type Legend
DOS = Dry oral swab, F = Feces, PS = Pelt swab, E= Environmental sample

Mouse PCR Panels to be combined with Serology

Possible sample type combinations for PCR panels:

- Environmental sample (E) (do not submit other samples for PCR to avoid duplicate testing)
- Feces (F) and Pelt Swab (PS)
- Feces (F), Dry Oral Swab (DOS) and Pelt Swab (PS)

	Preferred Sample Type(s)	3R FELASA Quarterly	3R FELASA Annual	3R FELASA Quarterly SOPF	3R FELASA Annual SOPF
Turnaround time		4-5 days	4-5 days	4-5 days	4-5 days
Test code		**21-00137**	**21-00138**	**21-00182**	**21-00139**
Rodentibacter heylii	E / F / DOS	•	•	•	•
Rodentibacter pneumotropicus	E / F / DOS	•	•	•	•
Streptococcus ß-hemolytic Group A, B, C, G	E / F / DOS	•	•	•	•
Corynebacterium kutscheri	E / F / DOS		•		•
Streptococcus pneumoniae	E / F / DOS	•	•	•	•
Streptobacillus moniliformis	E / F / DOS		•		•
Bordetella bronchiseptica	E / F / DOS			•	•
Filobacterium rodentium	E / F / DOS			•	•
Staphylococcus aureus	E / F / DOS			•	•
Helicobacter spp. H.bilis, H.ganmani, H.hepaticus, H.mastomyrinus, H.rodentium, H.typhlonius	E / F	•	•	•	•
Citrobacter rodentium	E / F		•		•
Salmonella spp.	E / F		•		•
Klebsiella oxytoca	E / F			•	•
Klebsiella pneumoniae	E / F			•	•
Pseudomonas aeruginosa	E / F			•	•
Proteus mirabilis	E / F			•	•
Chilomastix spp.	E / F	•	•	•	•
Cryptosporidium spp.	E / F	•	•	•	•
Eimeria sp.	E / F	•	•	•	•
Entamoeba muris	E / F	•	•	•	•
Giardia muris	E / F	•	•	•	•
NEW Hexamastix muris	E / F	•	•	•	•
Spironucleus muris	E / F	•	•	•	•
Tritrichomonas muris	E / F	•	•	•	•
Pinworms (S.muris, S.obvelata, A.tetraptera)	E / F	•	•	•	•
Fur mites (Myocoptes, Myobia, Radfordia spp.)	E / PS	•	•	•	•

Rat Serology Panels to be combined with PCR Panels

	Preferred Sample Type(s)	Parvovirus	Global	3R FELASA Quarterly	3R FELASA Annual
Turnaround time		4 days	4 days	4 days	4 days
Test code		**23-00066**	**23-00064**	**23-00055**	**23-00056**
Rat parvovirus (RPV)	Opti-Spot®	•	•	•	•
Rat minute virus (RMV)	Opti-Spot®	•	•	•	•
Kilham's rat virus (KRV)	Opti-Spot®	•	•	•	•
Toolan's H-1 virus (H-1)	Opti-Spot®	•	•	•	•
Rat theilovirus (RTV)	Opti-Spot®		•	•	•
Rat coronavirus/Sialodacryoadenitis virus (RCV/SDAV)	Opti-Spot®		•	•	•
Pneumocystis carinii	Opti-Spot®		•		•
Sendai virus (SEND)	Opti-Spot®		•		•
Pneumonia virus of mice (PVM)	Opti-Spot®		•	•	•
Mycoplasma pulmonis	Opti-Spot®		•	•	•
Reovirus type 3 (REO3)	Opti-Spot®		•		•
Lymphocytic choriomeningitis virus (LCMV)	Opti-Spot®		•		
Filobacterium rodentium	Opti-Spot®		•		•
Hantaviruses (Hantaan & Seoul)	Opti-Spot®		•		•
Clostridium piliforme	Opti-Spot®		•	•	•
Mouse adenovirus (MAV1)	Opti-Spot®		•		•
Mouse adenovirus (MAV2)	Opti-Spot®		•		•
Encephalitozoon cuniculi (ECUN)	Opti-Spot®		•		
Infectious diarrhea of infant mice (IDIR)	Opti-Spot®		•		
Rat polyomavirus 2 (RPyV2)	Opti-Spot®		•		

Sample Type Legend
DOS = Dry oral swab, F = Feces, PS = Pelt swab, E= Environmental sample

Rat PCR Panels to be combined with Serology

Possible sample type combinations for PCR panels:

- Environmental sample (E) (do not submit other samples for PCR to avoid duplicate testing)
- Feces (F) and Pelt Swab (PS)
- Feces (F), Dry Oral Swab (DOS) and Pelt Swab (PS)

	Preferred Sample Type(s)	3R FELASA Quarterly	3R FELASA Annual	3R FELASA Quarterly SOPF	3R FELASA Annual SOPF
Turnaround time		4-5 days	4-5 days	4-5 days	4-5 days
Test code		**21-00140**	**21-00141**	**21-00209**	**21-00142**
Rodentibacter heylii	E / F / DOS	•	•	•	•
Rodentibacter pneumotropicus	E / F / DOS	•	•	•	•
Streptococcus ß-hemolytic Group A, B, C, G	E / F / DOS	•	•	•	•
Corynebacterium kutscheri	E / F / DOS			•	•
Streptococcus pneumoniae	E / F / DOS	•	•	•	•
Streptobacillus moniliformis	E / F / DOS		•		•
Bordetella bronchiseptica	E / F / DOS			•	•
Staphylococcus aureus	E / F / DOS			•	•
Helicobacter spp. H.bilis, H.ganmani, H.hepaticus, H.mastomyrinus, H.rodentium, H.typhlonius	E / F	•	•	•	•
Salmonella spp.	E / F		•		•
Klebsiella oxytoca	E / F			•	•
Klebsiella pneumoniae	E / F			•	•
Pseudomonas aeruginosa	E / F			•	•
Proteus mirabilis	E / F			•	•
Chilomastix spp.	E / F	•	•	•	•
Cryptosporidium spp.	E / F	•	•	•	•
Eimeria sp.	E / F	•	•	•	•
Entamoeba muris	E / F	•	•	•	•
Giardia muris	E / F	•	•	•	•
NEW Hexamastix muris	E / F	•	•	•	•
Spironucleus muris	E / F	•	•	•	•
Tritrichomonas muris	E / F	•	•	•	•
Pinworms (S.muris, S.obvelata, A.tetraptera)	E / F	•	•	•	•
Fur mites (Myocoptes, Myobia, Radfordia spp.)	E / PS	•	•	•	•

Mouse PCR Panels for Quarantine or screening immunodeficient animals without sentinels

Possible sample type combinations for PCR panels:

- Feces (F) and Pelt Swab (PS)
- Feces (F), Dry Oral Swab (DOS) and Pelt Swab (PS)

	Preferred Sample Type(s)	3R Quarantine Quarterly	3R Quarantine Annual	3R Quarantine Quarterly SOPF	3R Quarantine Annual SOPF
Turnaround time		4-5 days	4-5 days	4-5 days	4-5 days
Test code		**21-00143**	**21-00287**	**21-00297**	**21-00145**
Mouse parvovirus (MPV1-5)	F	•	•	•	•
Minute virus of mice (MVM)	F	•	•	•	•
Mouse hepatitis virus (MHV)	F	•	•	•	•
Murine norovirus (MNV)	F	•	•	•	•
Theiler's murine encephalomyelitis virus (TMEV)	F	•	•	•	•
Mouse rotavirus (MRV/EDIM)	F	•	•	•	•
Mycoplasma pulmonis	F		•		•
Mouse adenovirus (MAV1)	F		•		•
Mouse adenovirus (MAV2)	F		•		•
Reovirus 3 (REO3)	F		•		•
Lymphocytic choriomeningitis virus (LCMV)	F		•		•
Ectromelia virus (ECTRO)	F		•		•
Sendai virus (SEND)	F / DOS		•		•
Pneumonia virus of mice (PVM)	F / DOS		•		•

continued	Preferred Sample Type(s)	3R Quarantine Quarterly	3R Quarantine Annual	3R Quarantine Quarterly SOPF	3R Quarantine Annual SOPF
Rodentibacter heylii	F / DOS	•	•	•	•
Rodentibacter pneumotropicus	F / DOS	•	•	•	•
Streptococcus ß-hemolytic Group A, B, C, G	F / DOS	•	•	•	•
Corynebacterium kutscheri	F / DOS		•		•
Mycoplasma pulmonis	F / DOS		•		•
Streptococcus pneumoniae	F / DOS	•	•	•	•
Streptobacillus moniliformis	F / DOS		•		•
Filobacterium rodentium	F / DOS			•	•
Bordetella bronchiseptica	F / DOS			•	•
Staphylococcus aureus	F / DOS			•	•
Helicobacter spp. H.bilis, H.ganmani, H.hepaticus, H.mastomyrinus, H.rodentium, H.typhlonius	F	•	•	•	•
Citrobacter rodentium	F		•		•
Clostridium piliforme	F		•		•
Salmonella spp.	F		•		•
Klebsiella oxytoca	F			•	•
Klebsiella pneumoniae	F			•	•
Pseudomonas aeruginosa	F			•	•
Proteus mirabilis	F			•	•
Chilomastix spp.	F	•	•	•	•
Cryptosporidium spp.	F	•	•	•	•
Eimeria sp.	F	•	•	•	•
Entamoeba muris	F	•	•	•	•
Giardia muris	F	•	•	•	•
NEW Hexamastix muris	F	•	•	•	•
Spironucleus muris	F	•	•	•	•
Tritrichomonas muris	F	•	•	•	•
Pinworms (S.muris, S.obvelata, A.tetraptera)	F	•	•	•	•
Fur mites (Myocoptes, Myobia, Radfordia spp.)	PS	•	•	•	•

Sample Type Legend
DOS = Dry oral swab, F = Feces, PS = Pelt swab

Rat PCR Panels for Quarantine or screening immunodeficient animals without sentinels

Possible sample type combinations for PCR panels:

- Feces (F) and Pelt Swab (PS)
- Feces (F), Dry Oral Swab (DOS) and Pelt Swab (PS)

	Preferred Sample Type(s)	3R Quarantine Quarterly	3R Quarantine Annual	3R Quarantine Quarterly SOPF	3R Quarantine Annual SOPF
Turnaround time		4-5 days	4-5 days	4-5 days	4-5 days
Test code		**21-00146**	**21-00147**	**21-00299**	**21-00148**
Rat parvovirus (RPV)	F	•	•	•	•
Rat minute virus (RMV)	F	•	•	•	•
Kilham's rat virus (KRV)	F	•	•	•	•
Toolan's H-1 virus (H-1)	F	•	•	•	•
Rat theilovirus (RTV)	F	•	•	•	•
Rat coronavirus/Sialodacryoadenitis virus (RCV/SDAV)	F / DOS	•	•	•	•
Sendai virus (SEND)	F / DOS		•		•
Pneumonia virus of mice (PVM)	F / DOS	•	•	•	•
Reovirus type 3 (REO3)	F		•		•
Hantaan virus (HANT)	F		•		•
Seoul virus (SEOV)	F				
Mouse adenovirus (MAV1)	F				
Mouse adenovirus (MAV2)	F				

continued	Preferred Sample Type(s)	3R Quarantine Quarterly	3R Quarantine Annual	3R Quarantine Quarterly SOPF	3R Quarantine Annual SOPF
Rodentibacter heylii	F / DOS	•	•	•	•
Rodentibacter pneumotropicus	F / DOS	•	•	•	•
Streptococcus ß-hemolytic Group A, B, C, G	F / DOS	•	•	•	•
Corynebacterium kutscheri	F / DOS			•	•
Mycoplasma pulmonis	F / DOS	•	•	•	•
Streptococcus pneumoniae	F / DOS	•	•	•	•
Streptobacillus moniliformis	F / DOS		•		•
Filobacterium rodentium	F / DOS		•		•
Bordetella bronchiseptica	F / DOS			•	•
Staphylococcus aureus	F / DOS			•	•
Pneumocystis carinii	DOS		•		•
Helicobacter spp. H.bilis, H.ganmani, H.hepaticus, H.mastomyrinus, H.rodentium, H.typhlonius	F	•	•	•	•
Clostridium piliforme	F	•	•	•	•
Salmonella spp.	F		•		•
Klebsiella oxytoca	F			•	•
Klebsiella pneumoniae	F			•	•
Pseudomonas aeruginosa	F			•	•
Proteus mirabilis	F			•	•
Chilomastix spp.	F	•	•	•	•
Cryptosporidium spp.	F	•	•	•	•
Eimeria sp.	F	•	•	•	•
Entamoeba muris	F	•	•	•	•
Giardia muris	F	•	•	•	•
NEW Hexamastix muris	F	•	•	•	•
Spironucleus muris	F	•	•	•	•
Tritrichomonas muris	F	•	•	•	•
Pinworms (S.muris, S.obvelata, A.tetraptera)	F	•	•	•	•
Fur mites (Myocoptes, Myobia, Radfordia spp.)	PS	•	•	•	•

Sample Type Legend
DOS = Dry oral swab, F = Feces, PS = Pelt swab

Other Rodents & Rabbit Health Monitoring

IDEXX BioAnalytics has designed specific health monitoring testing panels for **guinea pigs, hamsters, rabbits, and chinchilla**, utilizing serology, PCR and parasitology. These species carry their own unique list of potential pathogens, including those typically excluded from high health mouse and rat colonies. Routine mouse and/or rat panels may be performed on these species to screen for potential agents that could be brought in a facility housing mice and rats.

Guinea Pig Serology Panels

	Preferred Sample Type(s)	3R FELASA Quarterly	3R FELASA Annual	Basic	Comprehensive	Global
Turnaround time		4 days	4 days	4 days	4 days	4 days
Test code		**23-00058**	**23-00057**	**23-00003**	**23-00010**	**23-00077**
Guinea pig adenovirus (GpAV)	Opti-Spot®	•	•		•	•
Parainfluenza virus 3 (PI3)	Opti-Spot®	•	•	•	•	•
Sendai virus (SEND)	Opti-Spot®	•	•	•	•	•
Guinea pig cytomegalovirus (GpCMV)	Opti-Spot®		•		•	•
Encephalitozoon cuniculi (ECUN)	Opti-Spot®		•	•	•	•
Clostridium piliforme	Opti-Spot®		•	•	•	•
Lymphocytic choriomeningitis virus (LCMV)	Opti-Spot®			•	•	•
Pneumonia virus of mice (PVM)	Opti-Spot®			•	•	•
Simian virus 5 (SV5)	Opti-Spot®				•	•
Poliovirus (GDVII)	Opti-Spot®					•
Reovirus type 3 (REO3)	Opti-Spot®					•
Toxoplasma gondii	Opti-Spot®					•
Mycoplasma pulmonis	Opti-Spot®					•

Guinea Pig Parasitology to be combined with Serology and PCR

	Preferred Sample Type(s)	Turnaround time	Test code
Other Endoparasites - Fecal Flotation	F	5 days	**25-00211**
Ectoparasites - Microscopic Examination	Skin scrape, Fur pluck	5 days	**25-00210**

Guinea Pig PCR Panels to be combined with Serology

	Preferred Sample Type(s)	3R FELASA Quarterly	3R FELASA Annual	Basic	Comprehensive	Global
Turnaround time		4-5 days	4-5 days	4-5 days	4-5 days	4-5 days
Test code		**21-00177**	**21-00176**	**21-00333**	**21-00334**	**21-00335**
Bordetella bronchiseptica	DOS	•	•	•	•	•
ß-hemolytic Streptococci Group A, B, C, G	DOS	•	•		•	•
Corynebacterium kutscheri	DOS	•	•			•
Streptococcus pneumoniae	DOS	•	•	•	•	•
Streptobacillus moniliformis	DOS		•			•
Rodentibacter heylii	DOS					•
Rodentibacter pneumotropicus	DOS					•
Pasteurella multocida	DOS					•
Chlamydia spp.	F					•
Salmonella spp.	F		•	•	•	•
Campylobacter coli	F					•
Campylobacter jejuni	F					•
Cryptosporidium spp.	F					•
Helicobacter spp., H. bilis, H. hepaticus	F					•
Lawsonia intracellularis	F					•
NEW Chilomastix spp.	F					•
NEW Hexamastix muris	F					•
Dermatophytes	Skin Brush	•	•			•

Sample Type Legend
DOS = Dry oral swab, F = Feces

Other Rodents & Rabbit Health Monitoring

Hamster Serology Panels

	Preferred Sample Type(s)	3R FELASA Quarterly	3R FELASA Annual	Clinical	Comprehensive	Global
Turnaround time		4 days	4 days	4 days	4 days	4 days
Test code		**23-00060**	**23-00059**	**23-00007**	**23-00011**	**23-00076**
Lymphocytic choriomeningitis virus (LCMV)	Opti-Spot®	●	●	●	●	●
Sendai virus (SEND)	Opti-Spot®	●	●	●	●	●
Clostridium piliforme	Opti-Spot®		●	●	●	●
Pneumonia virus of mice (PVM)	Opti-Spot®				●	●
Simian virus 5 (SV5)	Opti-Spot®				●	●
Encephalitozoon cuniculi (ECUN)	Opti-Spot®				●	●
Reovirus type 3 (REO3)	Opti-Spot®				●	●
Hamster parvovirus (HaPV)	Opti-Spot®					●
Hamster polyomavirus (HaPyV)	Opti-Spot®					●
Group A rotavirus (MRV, EDIM)	Opti-Spot®					●
Mouse adenovirus 1 (MAV1)	Opti-Spot®					●
Mouse adenovirus 2 (MAV2)	Opti-Spot®					●

Hamster Parasitology to be combined with Serology and PCR

	Preferred Sample Type(s)	Turnaround time	Test code
Other Endoparasites - Fecal Flotation	F	5 days	**25-00211**
Ectoparasites - Microscopic Examination	Skin scrape, Fur pluck	5 days	**25-00210**

Hamster PCR Panels to be combined with Serology

	Preferred Sample Type(s)	3R FELASA Quarterly	3R FELASA Annual	Clinical	Comprehensive	Global
Turnaround time		4-5 days	4-5 days	4-5 days	4-5 days	4-5 days
Test code		**21-00181**	**21-00180**	**21-00327**	**21-00328**	**21-00329**
Rodentibacter heylii	DOS	●	●	●	●	●
Rodentibacter pneumotropicus	DOS	●	●	●	●	●
Corynebacterium kutscheri	DOS		●		●	●
ß-hemolytic Streptococci Group A, B, C, G	DOS					●
Filobacter rodentium	DOS					●
Streptococcus pneumoniae	DOS					●
Pasteurella multocida	DOS					●
Helicobacter spp., H. bilis, H. hepaticus	F		●		●	●
Salmonella spp.	F		●		●	●
Campylobacter coli	F					●
Campylobacter jejuni	F					●
Lawsonia intracellularis	F					●
Cryptosporidium spp.	F	●	●	●	●	●
Entamoeba muris	F	●	●	●	●	●
Giardia muris	F	●	●	●	●	●
Spironucelus muris	F	●	●	●	●	●
Dermatophytes	Skin Brush	●	●	●	●	●

Sample Type Legend
DOS = Dry oral swab, F = Feces

Other Rodents & Rabbit Health Monitoring

Rabbit Serology Panels

	Preferred Sample Type(s)	3R FELASA Quarterly	3R FELASA Annual	Comprehensive	Global
Turnaround time		4 days	4 days	4 days	4 days
Test code		**23-00063**	**23-00062**	**23-00012**	**23-00075**
Rabbit hemorrhagic disease virus (RHDV)	Serum	•	•		•
Rotavirus group A (ROTA)	Opti-Spot®	•	•	•	•
Encephalitozoon cuniculi (ECUN)	Opti-Spot®	•	•	•	•
Clostridium piliforme	Opti-Spot®	•	•	•	•
Cilia-associated respiratory bacillus (CARB)	Opti-Spot®		•	•	•
PIV-1 (Sendai virus)	Opti-Spot®				•
PIV-2 (SV5)	Opti-Spot®				•
Myxomatosis †	Serum				•
Reovirus type 3 (REO3)	Opti-Spot®				•
Toxoplasma gondii	Opti-Spot®				•
Treponema paraluiscuniculi	Opti-Spot®			•	•
Mycoplasma pulmonis	Opti-Spot®				•

Rabbit PCR Panels to be combined with Serology

	Preferred Sample Type(s)	3R FELASA Quarterly	3R FELASA Annual	Comprehensive	Global
Turnaround time		4-5 days	4-5 days	4-5 days	4-5 days
Test code		**21-00186**	**21-00185**	**21-00325**	**21-00326**
Bordetella bronchiseptica	DOS	•	•	•	•
Rodentibacter heylii	DOS				•
Rodentibacter pneumotropicus	DOS				•
Pasteurella multocida	DOS	•	•	•	•
Salmonella spp.	F		•	•	•
Clostridium difficile	F				•
Helicobacter spp.	F				•
Lawsonia intracellularis	F				•
Cryptosporidium spp.	F				•
Giardia sp.	F				•
NEW Passalurus ambiguus	F			•	•
Dermatophytes	Skin Brush	•	•		•

Rabbit Parasitology to be combined with Serology and PCR

	Preferred Sample Type(s)	Turnaround time	Test code
Other Endoparasites - Fecal Flotation	F	5 days	**25-00211**
Ectoparasites - Microscopic Examination	Skin scrape, Fur pluck	5 days	**25-00210**

Sample Type Legend
DOS = Dry oral swab, F = Feces

Chinchilla Serology Panels

	Preferred Sample Type(s)	Prevalent	Comprehensive
Turnaround time		4 days	4 days
Test code		**23-00078**	**23-00079**
Encephalitozoon cuniculi (ECUN)	Opti-Spot®	•	•
Lymphocytic choriomeningitis virus (LCMV)	Opti-Spot®		•
Toxoplasma gondii	Opti-Spot®		•
Sendai virus (SEND)*	Opti-Spot®		

* Mouse-specific pathogens, such as those listed in the table above, can be included based on vivarium logistics

Chinchilla Parasitology to be combined with Serology and PCR

	Preferred Sample Type(s)	Turnaround time	Test code
Other Endoparasites Chinchilla - Fecal Floation	F	5 days	**25-00211**
Other Endoparasites Chinchilla - Tape Test	Tape test	5 days	**25-00212**

Chinchilla PCR Panels to be combined with Serology

	Preferred Sample Type(s)	Prevalent	Comprehensive	Global
Turnaround time		4-5 days	4-5 days	4-5 days
Test code		**21-00338**	**21-00339**	**21-00340**
Streptococcus pneumoniae	DOS	•	•	•
ß-hemolytic Streptococci Group A, B, C, G	DOS	•	•	•
Klebsiella pneumoniae	DOS		•	•
Rodentibacter heylii	DOS		•	•
Rodentibacter pneumotropicus	DOS		•	•
Pasteurella multocida	DOS		•	•
Bordetella bronchiseptica	DOS		•	•
Staphylococcus aureus	DOS		•	•
Bordetella pseudohinzii/hinzii	F		•	•
Salmonella spp.	F		•	•
Campylobacter coli	F		•	•
Campylobacter jejuni	F		•	•
Pseudomonas aeruginosa	F		•	•
Clostridium perfringens (enterotoxin)	F			•
Yersinia pseudotuberculosis	F			•
Yersinia enterocolitica	F			•
Listeria monocytogenes	F			•
Rodentolepis nana	F			•
Pinworms*	F			
Cryptosporidium spp.	F	•		•
Giardia spp. (assemblages A&B)	F	•		•
Eimeria spp.	F	•		•
Dermatophytes	PS	•		•
Fur mites*	PS			

* Mouse-specific pathogens, such as those listed in the table above, can be included based on vivarium logistics

Sample Type Legend
DOS = Dry oral swab, F = Feces
PS = Pelt swab

Additional Mouse and Rat PCR Panels

Test name and components	Preferred sample type(s)	Turnaround time	Test Code
Parvovirus Mouse PCR PCR MPV 1-5, MVM	F, E	4-5 days	**21-00190**
Parvovirus Rat PCR RPV, RMV, KRV, H-1	F, E	4-5 days	**21-00191**
Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) Panel	F, DOS	4-5 days	**Call**
Protozoa PCR Entamoeba muris, Giardia muris, Spironucleus muris, Tritrichomonas muris, Chilomastix spp., Cryptosporidium spp., Eimeria spp.	F, E	4-5 days	**21-00264**
Skin PCR Fur mites, Dermatophytes, Demodex musculi, Ornithonyssus spp., Staphylococcus aureus, Staphylococcus xylosus, Corynebacterium bovis, Corynebacterium spp. (HAC2), ***NEW*** Polyplax serrata, Polyplax spinulosa	PS	4-5 days	**21-00270**
Dermatophytes PCR Microsporum spp., Trichophyton spp.	Skin brush	4-5 days	**21-00175**
Opportunistic Bacteria Mouse PCR Klebsiella oxytoca, Klebsiella pneumoniae, Pseudomonas aeruginosa, Proteus mirabilis, Staphylococcus aureus, Bordetella bronchiseptica, Filobacterium rodentium	F, DOS, E	4-5 days	**21-00343**
Opportunistic Bacteria Rat PCR Klebsiella oxytoca, Klebsiella pneumoniae, Pseudomonas aeruginosa, Proteus mirabilis, Staphylococcus aureus, Bordetella bronchiseptica, Corynebacterium kutscheri	F, DOS, E	4-5 days	**21-00344**

Guinea Pig PCR Diagnostic Panels

Test name and components	Preferred sample type(s)	Turnaround time	Test Code
Acute Guinea Pig PCR Guinea pig adenovirus (GpAV), Bordetella bronchiseptica, Salmonella sp., ß-hemolytic Streptococci Group C	DOS	4-5 days	**21-00337**
Opportunistic Guine PigPCR Klebsiella pneumoniae, Klebsiella oxytoca, Pseudomonas aeruginosa, Proetus mirabilis, Staphylococcus aureus	F, DOS or F	4-5 days	**21-00336**

Hamster PCR Diagnostic Panels

Test name and components	Preferred sample type(s)	Turnaround time	Test Code
Diahrrea Hamster PCR Clostridium perfringens (alpha toxin), Clostridium perfringens (enterotoxin), Clostridium difficile (toxin A), Clostridium difficile (toxin B), Helicobacter spp., H. bilis, H. hepatics, Salmonella spp., Lawsonia intracellularis, Campylobacter coli, Campylobacter jejuni, Cryptosporidium spp.	F	4-5 days	**21-00331**
Respiratory Hamster PCR Rodentibacter heylii, Rodentibacter pneuomotropicus, ß-hemolytic Streptococci Group B, Mycoplasma pulmonis, Bordetella bronchiseptica, Sendai virus (SEND)	DOS	4-5 days	**21-00332**
Opportunistic Hamster PCR Klebsiella pneumoniae, Klebsiella oxytoca, Pseudomonas aeruginosa, Proteus mirabilis, Staphylococcus aureus	F, DOS or F	4-5 days	**21-00330**

Sample Type Legend
DOS = Dry oral swab, E = Environmental sample
F = Feces, PS = Pelt swab

Rodent & Rabbit Individual PCR Assays

Test Name	Screening Sample Type	Diagnostic Sample Type	Species	Test Code
A				
Aspiculuris tetraptera (Pinworms)	F, E		M, R, Ch	**20-00115**
B				
Boone cardiovirus (BCV)	F, E		R	**20-00148**
Bordetella bronchiseptica	F, E, DOS	trachea	M, R, Gp, Ha, Rb, Ch	**20-00120**
Bordetella pseudohinzii/hinzii	F, E	trachea	M, Ch	**20-00176**
Burkholderia gladioli	F, E, DOS	liver, spleen	M, R	**20-00456**
C				
Campylobacter coli	F, E		M, R, Gp, Ha, Ch	**20-00116**
Campylobacter jejuni	F, E		M, R, Gp, Ha, Ch	**20-00091**
Chilomastix spp.	F, E		M, R	**20-00341**
Chlamydia muridarum	F, E		M	**20-00470**
Chlamydia spp.	F, E		Gp	**20-00464**
Cilia-associated respiratory bacillus (CARB)	F, E, DOS	trachea	Rb	**20-00043**
Citrobacter rodentium	F, E	colon	M, Rb	**20-00005**
Clostridium difficile Toxin A	F, E		Rb	**20-00098**
Clostridium difficile Toxin B	F, E		Rb	**20-00101**
Clostridium perfringens alpha toxin	F, E		Ch	**20-00107**
Clostridium perfringens enterotoxin	F, E		Ch	**20-00340**
Clostridium piliforme (Tyzzer's disease)	F, E		M, R, Rb	**20-00007**
Corynebacterium bovis / Corynebacterium spp. (HAC2)	F, E, PS		M, R	**20-00218**
Corynebacterium kutscheri	F, E, DOS		M, R, Ha	**20-00042**
Cryptosporidium muris	F, E		M	**20-00474**
Cryptosporidium parvum/tyzzeri	F, E		M	**20-00475**
Cryptosporidium spp.	F, E		M, R, Gp, Ha, Rb, Ch	**20-00350**
D				
Demodex musculi	PS, E, F		M, R	**20-00318**
Dermatophytes (Microsporum sp., Trichophyton sp.)	PS, E, F		M, R, Gp, Ha, Rb, Ch	**20-00314**
E				
Ectromelia virus (ECTRO)	F, E	skin lesion	M	**20-00004**
Eimeria spp.	F, E		M, R, Rb, Ch	**20-00409**
Encephalitozoon cuniculi	F	kidney	M, R, Gp, Ha, Rb	**20-00051**
Entamoeba muris	F, E		M, R, Ha	**20-00142**
F				
Filobacterium rodentium	F, E, DOS	trachea	M, R, Ha	**20-00006**
Fur mites (Myocoptes, Myobia, Radfordia)	PS, E, F		M, R, Ch	**20-00124**

Test Name	Screening Sample Type	Diagnostic Sample Type	Species	Test Code
G				
Giardia muris	F, E		M, R, Ha	**20-00090**
Giardia spp.	F, E		Ch, Rb	**20-00354**
Guinea pig adenovirus (GPAV)	F, E, DOS	lung	Gp	**20-00013**
Guinea pig cytomegalovirus (GPCMV)	F	spleen, salivary gland	Gp	**20-00015**
H				
Hamster parvovirus (HaPV)	F	MLN	Ha	**20-00012**
Hamster poylomavirus (HaPyV)	F, E	lesioned organs	Ha	**20-00186**
Hantaan virus (HANT)	F, E	kidney	M, R, Gp, Ha	**20-00011**
Helicobacter bilis	F, E		M, R, Gp, Ha	**21-00001**
Helicobacter ganmani	F, E		M, R	**21-00001**
Helicobacter hepaticus	F, E		M, R, Gp, Ha	**21-00001**
Helicobacter mastomyrinus	F, E		M, R	**21-00001**
Helicobacter rodentium	F, E		M, R	**21-00001**
Helicobacter spp.	F, E		M, R, Gp, Ha, Rb	**21-00001**
Helicobacter typhlonius	F, E		M, R	**21-00001**
NEW Hexamastix muris	F, E		M, R	**20-00534**
Hymenolepis diminuta	F, E		M, R	**20-00169**
K				
K virus (Mouse pneumotropic virus)	F, E	MLN	M	**20-00016**
Kilham's rat virus (KRV)	F, E	MLN	R	**21-00003**
Klebsiella oxytoca	F, E		M, R, Gp, Ha	**20-00041**
Klebsiella pneumoniae	F, E		M, R, Gp, Ha	**20-00040**
L				
Lactate dehydrogenase-elevating virus (LDEV)	S, F, E	spleen	M	**20-00020**
Lawsonia intracellularis	F, E		M, R, Gp, Ha, Rb	**20-00082**
Leptospira spp.	F, E		M, R	**20-00455**
Lymphocytic choriomeningitis virus (LCMV)	F, E		M, R, Gp, Ha	**20-00018**
M				
Minute virus of mice (MVM)	F, E	MLN	M	**21-00002**
Mouse adenovirus 1 (MAV1)	F, E	MLN	M, R	**20-00402**
Mouse adenovirus 2 (MAV2)	F, E	intestine	M, R	**20-00404**
Mouse cytomegalovirus (MCMV)	F, E	spleen, salivary gland	M	**20-00021**
Mouse hepatitis virus (MHV)	F, E	MLN	M	**20-00086**
Mouse kidney parvorvirus (MKPV)	F	kidney	M	**20-00388**

Sample Type Legend
DOS =Dry oral swab, E = Environmental sample, F = Feces, PS = Pelt swab

Species Legend
M = Mouse, R = Rat, Gp = Guinea Pig, Ha = Hamster, Rb = Rabbit, Ch = Chinchilla

Real-Time PCR Testing Services

Test Name	Screening Sample Type	Diagnostic Sample Type	Species	Test Code
Mouse parvovirus (MPV1-5)	F, E	MLN, spleen	M	**21-00002**
Mouse rotavirus (EDIM)	F, E		M	**20-00008**
Mouse thymic virus (MTV)	F, E, DOS	salivary gland	M	**20-00024**
Murine astrovirus 1 (MuAstV1)	F, E		M	**20-00170**
Murine norovirus (MNV)	F, E		M	**20-00023**
Murine polyomavirus (MPyV)	F, E	skin	M	**20-00026**
Mycoplasma pulmonis	F, E, DOS		M, R	**20-00095**
Myocoptes musculinus	PS, E, F		M, R, Ch	**20-00124**
Myxomatosis (MYXO)	F		Rb	**Call**
O				
Ornithonyssus spp.	PS, E, F		M, R	**20-00307**
P				
Parvoviruses mouse (MPV1-5, MVM)	F, E	MLN, spleen	M	**21-00002**
NEW Passalurus ambiguus	F		Rb	**20-00541**
Parvoviruses rat (RPV, RMV, KRV, H-1)	F, E	MLN, spleen	R	**21-00003**
Pasteurella multocida	F, E, DOS		R, Gp, Ha, Rb, Ch	**20-00172**
Pinworms (Aspiculuris tetraptera, Syphacia muris, Syphacia obvelata)	F, E		M, R, Ch	**20-00115**
Pneumocystis spp.	F, E, DOS	lung	M, R	**20-00345**
Pneumonia virus of mice (PVM)	F, E, DOS	lung	M, R	**20-00027**
NEW Polyplax serrata	F, E		M	**20-00532**
NEW Polyplax spinulosa	F, E		R	**20-00531**
Proteus mirabilis	F, E		M, R, Gp, Ha, Rb	**20-00369**
Pseudomonas aeruginsa	F, E		M, R, Ch	**20-00371**
R				
Rat coronavirus/Sialodacryoadenitis virus (RCV/SDAV)	F, E, DOS	harderian gland	Rat	**20-00029**
Rat cytomegalovirus (RCMV)	F, E, DOS		Rat	**20-00028**
Rat minute virus (RMV)	F, E		Rat	**21-00003**
Rat parvovirus (RPV)	F, E		Rat	**21-00003**
Rat polyomavirus 2 (RPyV2)	F, E, DOS		Rat	**20-00315**
Rat rotavirus (IDIR)	F, E		Rat	**20-00184**
Rat theilovirus (RTV)	F, E	intestine	Rat	**20-00037**
Reovirus type 3 (REO3)	F, E	intestine	M, R, Gp, Ha	**20-00030**
Rodentibacter heylii	F, E, DOS		M, R, Gp, Ha, Rb, Ch	**20-00171**
Rodentibacter pneumotropicus	F, E, DOS		M, R, Gp, Ha, Rb, Ch	**20-00171**
Rodentolepis nana	F, E		M, R, Ch	**20-00163**

Test Name	Screening Sample Type	Diagnostic Sample Type	Species	Test Code
S				
Salmonella spp.	F, E		M, R, Gp, Ha, Rb, Ch	**20-00033**
Segmented filamentous bacterium (SFB)	F, E		M	**20-00144**
Sendai virus (SEND)	F, E, DOS	lung	M, R, Gp, Ha	**20-00014**
Seoul virus (SEOV)	F, E	kidney	M, R	**20-00495**
Severe acute respiratory syndrome coronavirus 2 (SARS-CoV 2)	F, E		M	**20-00417**
Sin nombre virus (SNV)	F, E	kidney	M	**20-00394**
Spironucleus muris	F, E		M, R, Ha	**20-00092**
Staphylococcus aureus	F, E, DOS, PS		M, R, Ch	**20-00034**
Staphylococcus xylosus	F, E, DOS, PS		M, R	**20-00378**
Streptobacillus moniliformis	F, E, DOS		M, R, Gp	**20-00035**
Streptococcus agalactiae (ß-hemolytic group B)	F, E, DOS		M, R, Gp, Ha, Ch	**20-00410**
Streptococcus canis (ß-hemolytic group G)	F, E, DOS		M, R, Gp, Ha, Ch	**20-00489**
Streptococcus equi subsp. zooepidemicus (ß-hemolytic group C)	F, E, DOS		M, R, Gp, Ha, Ch	**20-00457**
Streptococcus pneumoniae	F, E, DOS		M, R, Gp, Ha, Ch	**20-00134**
Streptococcus pyogenes (ß-hemolytic group A)	F, E, DOS		M, R, Gp, Ha, Ch	**20-00493**
Syphacia muris (Pinworms)	F, E		M, R, Ch	**20-00115**
Syphacia obvelata (Pinworms)	F, E		M, R, Ch	**20-00115**
T				
Theiler's murine encephalomyelitis virus (TMEV)	F, E		M	**20-00038**
Toolan's H-1 virus (H-1)	F, E	MLN, spleen	R	**21-00003**
Treponema paraluiscuniculi	Genital swab, F, E		Rb	**20-00461**
Tritrichomonas muris	F, E		M, R	**20-00154**
Y				
Yersinia enterocolitica	F, E		Ch	**20-00165**
Yersinia pseudotuberculosis	F, E		Ch	**20-00136**

We offer additional PCR tests not listed. Please contact the Client Support Services team if you do not see a specific test listed.

Sample Type Legend
DOS =Dry oral swab, E = Environmental sample, F = Feces, PS = Pelt swab

Species Legend
M = Mouse, R = Rat, Gp = Guinea Pig, Ha = Hamster, Rb = Rabbit, Ch = Chinchilla

Additional Sample Information

Environmental Monitoring Sample (E) Collection (for PCR Testing)
In an effort to decrease the use of sentinel animals and increase the diagnostic sensitivity of monitoring rodent colonies for infectious agents, centralized whole rack level monitoring is being used as an adjunct to or a replacement for the use of soiled bedding sentinels. IDEXX BioAnalytics has a full suite of diagnostic real-time PCR assays based on the proprietary IDEXX BioAnalytics platform to provide testing for all of your environmental samples.

Sample Types & Collection:

- REPLACE™ and other exhaust air debris collection filters, membranes, or matrices measuring up to 6 cm x 9.5 cm can be placed lengthwise in a 50 ml conical tube. For matrices suspended in the exhaust air stream, the upward facing side of the matrix should face the center of the collection tube. For thin filters placed perpendicular to the air stream, the side of the filter facing the airflow should face the center of the collection tube.
- A sample of exhaust air dust may be collected and placed directly in a 2 ml microcentrifuge tube for testing.
- Swabs of plenums, prefilters, dust, or other surfaces can be placed in a 2 ml microcentrifuge tube and the swab head either snapped or cut so that only the swab head is in the tube. Collect as much debris/dust as the swab will hold from the dirtiest portion of the surfaces being swabbed.
- Cage Swab: Using a sterile, dry flocked swab, thoroughly swab the inside perimeter at the level of the bedding of the empty, soiled cage. Up to 10 cages can be swabbed using the same swab. Insert the swab halfway into a labeled sterile tube, close the tube lid against the swab shaft, and pull down on the swab shaft to break the shaft. The tip end will fall into the tube and the tube can be capped.

Feces (F) Collection (for PCR Testing)

- Sample Collection: Fecal pellets for PCR evaluation should be collected with clean gloves or sterile forceps and placed in individually labeled sterile tubes. If testing individual mice/rats, submit fecal pellets from each animal. Two to three pellets per animal are adequate.
- Pooling Information: If multiple animals of the same microbiologic unit are being evaluated, up to 10 fecal pellets can be pooled and tested as one sample. If collecting fecal pellets from multiple animals, gloves should be changed, and forceps replaced between animals to prevent cross-contamination. Alternatively, forceps can be wiped clean and immersed in diluted bleach (10%) solution for 10 minutes prior to reuse.

Pelt swab (PS) Collection (for PCR Testing)

- Sample Collection: Using a sterile, dry flocked swab (such as Puritan model #25-3406-U), thoroughly swab the fur against the direction of the hair coat of the animal. It is important to swab around the face, back, tail base, and belly for the best results. Insert the swab halfway into a labeled sterile tube, close the tube lid against the swab shaft, and pull down on the swab shaft to break the shaft. The tip end will fall into the tube, and the tube can be capped.
- Pooling Instruction: If multiple animals of the same microbiologic status are being evaluated, up to 10 pelt swabs can be pooled and tested as one sample.

Dry Oral Swab (DOS) Collection (for PCR Testing)

- Sample Collection: Using a sterile, dry flocked swab (such as Puritan model #25-3316-U), restrain the mouse/rat with one hand so that the head is not able to move from side to side. Insert the oral swab starting at the corner of the mouth to encourage the animal to open its mouth. Slowly twirl the swab to collect the sample. Insert the swab halfway into a labeled sterile tube, close the tube lid against the swab shaft, and pull down on the swab shaft to break the shaft. The tip end will fall into the tube, and the tube can be capped.

Sample Handling, Storage, and Shipment

- Sample Handling & Storage: Fecal samples, pelt and oral swabs, and environmental samples are stable and can be held at room temperature if packaged the same day for shipping or stored in the refrigerator until ready to send. For long-term storage, samples can be frozen.
- Sample Shipment: Place labeled sample tubes in a padded mailer or box and ship overnight to our laboratory. Samples can be shipped at ambient temperature or on ice packs.

Rodent & Rabbit Individual Serology Assays

Test Name	Preferred Sample Type(s)	Species	Test Code
C			
Cilia-associated respiratory bacillus (CARB)	Opti-Spot®	Rb	**22-00118**
Clostridium piliforme	Opti-Spot®	M, R, Gp, Ha, Rb	**22-00040**
E			
Ectromelia virus (ECTRO)	Opti-Spot®	M	**22-00012**
Encephalitozoon cuniculi (ECUN)	Opti-Spot®	M, R, Gp, Ha, Rb, Ch	**22-00006**
F			
Filobacterium rodentium	Opti-Spot®	M, R, Gp, Ha	**22-00009**
G			
Guinea pig adenovirus (GpAV)	Opti-Spot®	Gp	**22-00163**
Guinea pig cytomegalovirus (GpCMV)	Opti-Spot®	Gp	**22-00187**
H			
Hamster parvovirus (HaPV)	Opti-Spot®	Ha	**22-00295**
Hantaviruses (Hantaan & Seoul)	Opti-Spot®	R, Gp	**22-00015**
I			
Infectious diarrhea of infants (IDIR)	Opti-Spot®	R	**22-00146**
K			
K virus (Mouse pneumotropic virus)	Opti-Spot®	M	**22-00002**
Kilham's virus (KRV)	Opti-Spot®	R	**23-00015**
L			
Lactate dehydrogenase-elevating virus (LDV)	Opti-Spot®	M	**22-00144**
Leptospira spp.	Opti-Spot®	M, R	**22-00248**
Lymphocytic choriomeningitis virus (LCMV)	Opti-Spot®	M, R, Gp, Ha, Rb, Ch	**22-00018**
M			
Minute virus of mice (MVM)	Opti-Spot®	M, Gp	**23-00014**
Mouse adenovirus type 1 (MAV1)	Opti-Spot®	M, R, Gp, Ha	**22-00022**
Mouse adenovirus type 2 (MAV2)	Opti-Spot®	M, Gp, Ha	**22-00024**
Mouse cytomegalovirus (MCMV)	Opti-Spot®	M	**22-00026**
Mouse hepatitis virus (MHV)	Opti-Spot®	M, Gp	**22-00027**
Mouse kidney parvovirus (MKPV)	Opti-Spot®	M	**22-00275**
Mouse parvovirus (MPV1-5)	Opti-Spot®	M	**23-00014**
Mouse polyomavirus (MPyV)	Opti-Spot®	M	**22-00030**
Mouse rotavirus (EDIM)	Opti-Spot®	M, Ha	**22-00013**
Mouse thymic virus (MTV)	Opti-Spot®	M	**22-00253**
Murine norovirus (MNV)	Opti-Spot®	M	**22-00001**
Mycoplasma pulmonis	Opti-Spot®	M, R	**22-00020**
Myxomatosis	Serum	Rb	**Call**

Test Name	Preferred Sample Type(s)	Species	Test Code
P			
Parainfluenza virus 3 (PI3)	Opti-Spot®	Gp	**22-00119**
Parvoviruses mouse (MPV1-5, MVM)	Opti-Spot®	M	**23-00014**
Parvoviruses rat (RPV, RMV, KRV, H-1)	Opti-Spot®	R	**23-00015**
Pneumocystis carinii	Opti-Spot®	R	**22-00188**
Pneumocystis murina	Opti-Spot®	M	**22-00255**
Pneumonia virus of mice (PVM)	Opti-Spot®	M, R, Gp, Ha	**22-00031**
R			
Rabbit hemorrhagic disease virus (RHDV)	Serum	Rb	**22-00293**
Rat coronavirus/Sialodacryoadenitis virus (RCV/SDAV)	Opti-Spot®	R	**22-00033**
Rat minute virus (RMV)	Opti-Spot®	R	**23-00015**
Rat parvovirus (RPV)	Opti-Spot®	R	**23-00015**
Rat polyomavirus 2 (RPyV2)	Opti-Spot®	R	**22-00260**
Rat theilovirus (RTV)	Opti-Spot®	R	**22-00038**
Reovirus 3 (REO3)	Opti-Spot®	M, R, Gp, Ha	**22-00034**
S			
Sendai virus (SEND)	Opti-Spot®	M, R, Gp, Ha, Rb, Ch	**22-00003**
Severe acute respiratory syndrome coronavirus 2 (SARS-CoV 2)	Serum	M	**84-00065**
Sin Nombre virus (SNV)	Opti-Spot®	M, R, Gp	**22-00199**
Simian virus 5 (SV5)	Opti-Spot®	Gp, Ha, Rb	**22-00131**
T			
Theiler's murine encephalomyelitis virus (TMEV, GDVII)	Opti-Spot®	M	**22-00039**
Toolan's H-1 virus (H-1)	Opti-Spot®	R	**23-00015**
Toxoplasma gondii	Opti-Spot®	M, R, Gp, Ch	**22-00196**
Treponema paraluiscuniculi	Opti-Spot®	Rb	**22-00279**

Species Legend
M = Mouse, R = Rat, Gp = Guinea Pig, Ha = Hamster, Rb = Rabbit, Ch = Chinchilla

We offer additional Serology tests not listed. Please contact the Client Support Services team if you do not see a specific test listed.

Additional Sample Information

Opti-Spot® provides the following benefits

- Small sample size – only one drop of blood is required; more feasible for ante-mortem sampling
- Saves technician time – no clotting or centrifugation required; no transfer of serum
- Reduced sample preparation time – only an hour or two of drying time required
- Cost savings in supplies – no serum tubes or pipettes; may be shipped at ambient temperature, no ice or insulation necessary

Opti-Spot® Dry Blood Spot

- Materials required: Opti-Spot® card (available from IDEXX BioAnalytics for no charge), lancet or needle

- Sample Collection: The Opti-Spot® cards are constructed with 5 individual strips separated by perforations. The strips can easily be separated along the perforation lines for individual use if needed. On each strip, a 1 cm^2 circle is printed on the face of the Opti-Spot® membrane as a guide. It is not necessary that the blood spot be centered within the circle. Label one Opti-Spot® card with a unique identification number for each sample strip. Ante-mortem blood samples may be obtained by lancing the lateral saphenous, facial or the temporal vein. Touch the Opti-Spot® membrane to blood drop as it forms on the surface of the skin. If the blood sample is taken by cardiocentesis, quickly dispense one drop of whole blood onto the Opti-Spot® strip. The blood spot should be of sufficient size (approximately 1 cm^2) to nearly fill the printed circle and be of sufficient volume to saturate the membrane. The blood spot will appear similar on both sides of the membrane. Allow the blood spot to dry for a minimum of one hour. Once dried, fold the protective upper tab over the blood spot and tuck under the lower tab.

- Sample Handling & Storage: It is important that the Opti-Spot® strip is protected from moisture.

- Sample Shipment: Once dry, place Opti-Spot® samples in a water-tight plastic bag containing the provided silica gel desiccant pack, and ship samples at ambient temperature.

Refrain from pooling serum samples on Opti-Spot® strips, a practice that can yield false negative results by dilution effect.

Serum

- Sample Collection: MFI2 requires only 0.2 µl of undiluted serum (1.0 µl of 1:5 diluted serum) regardless of the number of tests requested. To allow for potential secondary and tertiary confirmatory testing, we recommend that a minimum of 20 µl of undiluted (100 µl of 1:5 diluted serum) be submitted for each sample. You may achieve an approximate 1:5 dilution of serum by adding 1 part of whole blood to 4 parts of ambient temperature saline. Refrigerate the diluted blood for 6 to 12 hours, centrifuge at low speed for 5–10 minutes, and recover the 1:5 diluted serum for submission. Undiluted serum is preferred.

- Sample Handling & Storage: Serum should be stored in tubes with the lids secured to prevent leakage. The use of Parafilm™ over tube lids is recommended to prevent leakage.

- Sample Shipment: Serum samples should be shipped using an overnight service. One or two ice packs are generally adequate depending on the type of container, the number of samples and the ambient temperature. Optimal shipping conditions are achieved when the entire package with its lid open is frozen overnight at or below -20˚C. Close tubes when shipping samples. The use of dry ice is not required.

Note:

- Do not submit whole blood; hemolysis will occur during freezing or shipping and may interfere with serologic test performance.
- Refrain from pooling serum samples, a practice that can yield false negative results by dilution effect.
- Please include a completed serology submission form specifying the species, serum dilution, and the serology profile or individual test(s) requested.
- Describe any potential biohazards associated with the samples. Please use a separate serology submission form for each species and serologic profile or group of test(s) requested.

Microbiology Services

Expect today's fastest and most accurate identification of microbes, with MALDI-TOF mass spectrometry (MS)

- Faster turnaround time
- Extensive and still-expanding database of agents
- Expanded offerings for bacterial and fungal agents

The identification and analysis of microorganisms have long been an integral part of IDEXX BioAnalytics' comprehensive diagnostic services offering. Using MALDI-TOF MS, we deliver faster and more accurate identification.

General

Test name and components			
Individual Aerobic Culture for 1 Species			
Individual Anaerobic Culture for 1 Species			
Aerobic Culture and ID-Bacteria Only			
Aerobic Culture and ID-Fungi Only			
Aerobic Culture and ID-Bacteria and Fungi			
Anaerobic Culture and ID-Bacteria Only			
Aerobic and Anaerobic Culture, ID-Bacteria Only			
Aerobic and Anaerobic Culture, ID-Bacteria and Fungi			
ID of Bacterial isolate in pure culture by MALDI-TOF			
ID of Fungal isolate in pure culture by MALDI-TOF			
Antibiotic Sensitivity			

Water (drinking water, aquatic animal water, floodwater)

Test name and components			
Individual Aerobic Culture for 1 Species			
Individual Anaerobic Culture for 1 Species			
Aerobic Culture and ID-Bacteria Only			
Aerobic Culture, ID and Colony Count by Species-Bacteria Only			
Aerobic Culture, ID and Colony Count by Species-Total Coliforms			
Aerobic Culture and ID-Bacteria and Fungi			
Aerobic Culture, ID and Colony Counts-Bacteria and Fungi			
Aerobic Culture, ID and Colony Count by Species-Bacteria and Fungi			
Aerobic and Anaerobic Culture, ID and Colony Count by Species-Bacteria and Fungi			

Environmental

Test name and components			
Individual Aerobic Culture for 1 Species			
Individual Anaerobic Culture for 1 Species			
RODAC plate count			
RODAC plate count with ID of Bacterial			
Aerobic Culture and ID-Bacteria Only			
Anaerobic Culture and ID-Bacteria Only			
Aerobic Culture and ID-Bacteria and Fungi			
Aerobic and Anaerobic Culture, ID-Bacteria Only			
Aerobic and Anaerobic Culture, ID-Bacteria and Fungi			

Additional Sample Information

Oral Swab Collection (for Microbiology Testing)

- Sample Collection: Obtain a small wire shaft culture swab with Aimies transport medium without charcoal (e.g. Becton Dickenson BBL CultureSwab Plus with Amies Gel medium without charcoal for aerobic organisms. BBL cat. # 220118; Fisher Scientific cat. # L4320118). Manually restrain the animal and swab the oral cavity. Pooling culture swabs or feces for Microbiology is not recommended. Pooling of these sample types may dilute samples below the level of detection.

Anaerobic and Fastidious Bacterial Swab (for Microbiology Testing)

- Sample Collection: Obtain a culture swab designed for the collection and transport of anaerobic and fastidious organisms (e.g Becton Dickenson BBL ESwab Collection Kit. BBL cat.# 220245; Fisher Scientific cat.#22-349-700). Collect the specimen with the swab. Aseptically unscrew and remove the cap from the transport tube. Insert the swab into the transport tube and break the swab shaft at the indicated breakpoint. Replace the cap and screw the cap on tightly.

Feces Collection (for Microbiology Testing)

- Sample Collection: Fecal pellets should be collected aseptically and placed in individually labeled sterile tubes. If testing individual animals, submit fecal pellets from each animal. Two to three pellets per animal is adequate. If collecting fecal pellets from multiple animals, gloves should be changed, and forceps replaced between animals to prevent cross-contamination. Alternatively, forceps can be wiped clean and immersed in diluted bleach (10%) solution for 10 minutes prior to reuse.

Sample Handling, Storage, and Shipment

- Samples should be kept refrigerated and shipped as soon as possible.
- Samples should be shipped by overnight courier in an insulated container on ice packs, making sure that there is insulation (e.g. bubble pack) between the ice packs and the samples so the samples do not freeze.

Diagnostic Pathology Services

Your source for accurate and timely reports on diagnostic investigations involving intervention and disease management. Our team of experienced comparative pathologists is knowledgeable in normative biology and diseases of a wide variety of research models, giving us a base of information from which to evaluate the cause(s) of clinical disease as well as unexpected research results. For submissions that qualify for diagnostic-only analysis include non study-related moribund animal tissue processing/ evaluation and biopsies.

A diagnostic pathology report will be available within 14-15 working days from receipt of specimen. Providing a complete history including but not limited to: clinical signs, clinical diagnosis, strain/model, and experimental manipulations will expedite reporting. Turnaround times may be delayed if a complete history is not provided.

Test name and components	Test codes
Diagnostic Pathology – Rodent Species Mouse, rat, gerbil, hamster, other (smaller than guinea pig)	**86-00065**
Pathology Evaluation of Digital Slides – Rodent Species Mouse, rat, gerbil, hamster, other (smaller than guinea pig)	**86-00070**
Whole Carcass Necropsy – Fixed carcass Mouse, rat, guinea pig, rabbit, and other limited species. Please call for more details	**86-00074**
Biopsy with Microscopic Description – 1 site Please call for more details	**63621**
Biopsy with Microscopic Description – 2 sites Please call for more details	**63622**
Bone Marrow Histopathology Evaluation – 1 site In-life collection of bone marrow (core) biopsies from dogs, cats, ruminants, horses in colonies or on-study that have clinicopathologic evidence of hematologic pathology or hematotoxicity. Submission of contemporaneous CBC and bone marrow cytology recommended)	**86-00094**
Diagnostic Pathology – Medium/Large Species Guinea pig, rabbit, ferret, chinchilla, porcine, ovine, equine, canine, bovine, caprine or other species	**86-00089**
Diagnostic Pathology – Avian/Reptile Species Bird, other	**86-00091**

Test name and components	Test codes
Diagnostic Pathology – Aquatic Species Xenopus, frog, axolotl, other (includes newts, salamanders)	**86-00087**
Zebrafish Pathology	**86-00022**
Small Fish Pathology Fish (non zebrafish), medaka (0-6cm)	**86-00048**
Medium Fish Pathology Bettas, cavefish, goldfish, killifish (7-13cm)	**86-00049**
Large Fish Pathology Carp, large goldfish, other (over 13cm)	**86-00061**

Additional Sample Information

Consult with us to help determine the best collection and shipping protocol.

- Sample Collection: Place tissues in formalin for at least 24 hours before shipment. Tissue to formalin ratio should be 1 to 20 for proper fixation. Tissues such as lung, brain, bone marrow and spinal cord have specialized collection protocols.
- Sample Handling & Storage: Make sure tissues are not tightly packed in jars or cassettes. Smaller tissues can be placed in a cassette or submitted attached to surrounding organs. Label cassettes with a pencil. Even indelible ink will fade during processing. To preserve sample integrity and prevent leakage samples should be triple-bagged with each layer tied, knotted or secured individually. Ship in rigid container in an upright position with bubble wrap.
- Sample Shipment: Tissues can be shipped in formalin. Store fixed samples at room temperature.

Altered Schaedler Flora Bacteria Detection

Test name and components	Specimen requirements	Turnaround time	Test Code
Altered Schaedler Flora Profile • Clostridium sp. ASF 356 / ASF 502 • Lactobacillus intestinalis ASF 360 • Lactobacillus murinus ASF 361 • Mucispirillum schaedleri ASF 457 • Eubacterium plexicaudatum ASF 492 • Pseudoflavorifactor sp. ASF 500 • Parabacteroides goldsteinii ASF 519	2-3 fecal pellets per animal, REPLACE matrix exposed to soiled bedding from animals in isolator	13-15 days	**21-00149**

Additional Sample Information

Feces (F) Collection (for PCR Testing)

- Sample Collection: Fecal pellets for PCR evaluation should be collected with clean gloves or sterile forceps and placed in individually labeled sterile tubes. If testing individual mice/rats, submit fecal pellets from each animal. Two to three pellets per animal are adequate.

- Pooling Information: If multiple animals of the same microbiologic status are being evaluated, up to 10 fecal pellets can be pooled and tested as one sample. If collecting fecal pellets from multiple animals, gloves should be changed, and forceps replaced between animals to prevent cross-contamination. Alternatively, forceps can be wiped clean and immersed in diluted bleach (10%) solution for 10 minutes prior to reuse.

- Sample Handling & Storage: Fecal samples are stable and can be held at room temperature if packaged the same day for shipping or stored in the refrigerator until ready to send. For long-term storage, samples can be frozen.

- Sample Shipment: Place labeled sample tubes in a padded mailer or box and ship overnight to our laboratory. Samples can be shipped at ambient temperature or on ice packs.

Germ-Free Animal Monitoring

Easy one-sample submission. Customized germ-free profiles are also available

Service includes:

- Generic bacterial 16S rDNA PCR assay paired with sterility testing with anaerobic culture
- Detects both non-cultivable and cultivable bacteria
- Detects fungi
- Provides IDs for bacteria found by MALDI-TOF MS

Test name and components	Specimen requirements	Turnaround time	Test Code
Germ-Free Complete Profile	2-3 fecal pellets per animal, REPLACE matrix exposed to soiled bedding from animals in isolator	13-15 days	**24-00243**

Additional Sample Information

Feces (F) Collection

- Sample Collection: Fecal pellets should be collected aseptically and placed in individually labeled sterile tubes. If testing individual mice/rats, submit fecal pellets from each animal. Two to three pellets per animal is adequate. If collecting fecal pellets from multiple animals, gloves should be changed and forceps replaced between animals to prevent cross-contamination. Alternatively, forceps can be wiped clean and immersed in diluted bleach (10%) solution for 10 minutes prior to reuse.

- Sample Handling: Fecal samples should be stored in the refrigerator until ready to send.

- Sample Shipment: Place labeled sample tubes in a polystyrene box and ship overnight to our laboratory. Samples should be shipped on ice packs.

Microbiome Analysis

Reduce research variables by gaining a deeper insight into your animal's Microbiome with state-of-the-art analysis and data comparison.

Service includes:

- DNA isolation–from all bacteria in the sample
- Deep sequencing–generates 200–500 megabases of sequence
- Data comparison and analysis–our bioinformatics produces a comparative analysis to known bacterial sequences
- Bacterial Identification–identifies all bacteria present and their relative abundance

Test name and components	Specimen requirements	Turnaround time	Test Code
Microbiome Analysis	2 fresh fecal pellets	4 weeks	**25-00193**

Additional Sample Information

Mouse/Rat Fecal Sample Collection

- Sample Collection: Use sterile toothpicks, autoclaved microisolator cages (completely empty), sterile 5 mL tubes. Pre-label tube (one per mouse/rat) with Sample ID (minimum) and treatment group, if applicable; any other metadata you would like associated with the sample. Place individual animal in empty autoclaved cage (no bedding). Allow mouse/rat to defecate normally and collect the first two fecal pellets per animal into an empty 5 mL tube using a sterile toothpick. Close tube securely. Discard toothpick after each animal. **Place tube containing fecal pellets in -80°C freezer IMMEDIATELY.**

- Sample Storage: Maintain samples at -80°C until ready to ship. Samples may remain at -80°C for extended periods.

- Sample Shipment: Ship samples overnight with sufficient dry ice (minimum of 5kg for 2-3-day transport time) to ensure the samples stay frozen

Note: We recommend collection of all samples at the same time of day, preferably in the morning, as the microbiome content varies over the course of the day.

Analysis is also available for other species including dog, cat, zebrafish, etc. Please contact for more details.

Results are provided via cloud service.

Aquatics Health Monitoring

IDEXX BioAnalytics, as a recognized leader and industry expert for aquatic diagnostics, has developed a comprehensive array of diagnostic products and services expressly for research zebrafish and other aquatic species.

Zebrafish PCR Panels

	Preferred Sample Type(s)	Mycobacterium	Essential	Comprehensive	FELASA/AALAS Quarterly	FELASA/AALAS Annual
Turnaround time		8-10 days	8-10 days	8-10 days	8-10 days	8-10 days
Test code		**80-00022**	**80-00004**	**80-00005**	**80-00222**	**80-00223**
Mycobacterium abscessus	E, WF	•	•	•	•	•
Mycobacterium chelonae	E, WF	•	•	•	•	•
Mycobacterium fortuitum	E, WF	•	•	•	•	•
Mycobacterium haemophilum	E, WF	•	•	•	•	•
Mycobacterium marinum	E, WF	•	•	•	•	•
Mycobacterium peregrinum	E, WF	•	•	•	•	•
Mycobacterium saopaulense	E, WF	•	•	•	•	•
Mycobacterium gordonae	E, WF	•	•	•	•	•
Edwardsiella ictaluri	E, WF		•	•		•
Pseudocapillaria tomentosa	E, WF		•	•	•	•
Pseudoloma neurophilia	WF		•	•	•	•
Flavobacterium columnare	E, WF			•		•
Ichthyophthirius multifiliis	WF			•		•
Infectious spleen and kidney necrosis virus (ISKNV)	WF			•		•
Piscinoodinium pillulare	WF			•		•
Pleistophora hyphessobryconis	WF			•		•
Myxidium streisingeri	E, WF		•	•		•
Zebrafish picornavirus (ZfPV1)	F, WF		•	•		•
Red spotted grouper nervous necrosis virus (RGNNV)	WF			•		•
Saprolegnia brachydanis	WF			•		
Aeromonas hydrophila	E, WF			•		
NEW Covert mortality nodavirus (CMNV)	E, WF			•		
NEW Rocky mountain birnavirus (RMBV)	E, WF			•		
NEW Gyrodactylus banmae	E, WF			•		

Zebrafish Microbiology Panel

	Preferred Sample Type(s)	ZF Microbiology
Turnaround time		10-14 days
Test code		**80-00097**
Aeromonas dhakensis	AS, E, T, WF	•
Aeromonas hydrophilia	AS, E, T, WF	•
Edwardsiella ictaluri	AS, T, WF	•
Flavobacterium columnare	SS, T, WF	•
Plesiomonas shigelloides	AS, E, T, WF	•
Pseudomonas aeruginosa	AS, E, T, WF	•
Pseudomonas fluorescens	AS, E, T, WF	•
Saprolegnia spp.	E, SS, T, WF	•

Additional fish species (Medaka, Killifish and more) can bet tested. For more information please contact CSS

Sample Type Legend
AS = Aseptic swab or aseptic stab, E = Environmental sample (biofilm, sediment, detritus), F = Feces, SS = Skin swab, T = Tissue, WF = Whole fish

Axolotl PCR Panels

	Preferred Sample Type(s)	Essential	Comprehensive
Turnaround time		8-10 days	8-10 days
Test code		**80-00098**	**80-00099**
Batrachochytrium dendrobatidis	E, SS	•	•
Mycobacterium chelonae	E, T	•	•
Mycobacterium marinum	E, T	•	•
Ranavirus spp.	E, T	•	•
Salmonella spp.	F	•	•
Batrachochytrium salamandrivorans	E, SS		•
Chilomastix spp.	F		•
Flavobacterium columnare	E, SS		•
Piscinoodinium pillulare	SS		•

Axolotl Microbiology Panel

	Preferred Sample Type(s)	Axolotl Microbiology
Turnaround time		10-14 days
Test code		**80-00117**
Aeromonas dhakensis	F, AS, SS, T, E	•
Aeromonas hydrophilia	F, AS, SS, T, E	•
Flavobacterium columnare	SS, T, E	•
Pseudomonas aeruginosa	F, E	•
Salmonella enterica	F	•
Saprolegnia spp.	F, SS, T, E	•
Serratia marcescens	F, AS, T, E	•

Xenopus PCR Panel

	Preferred Sample Type(s)	Mycobacterium	Essential	Comprehensive
Turnaround time		8-10 days	8-10 days	8-10 days
Test code		**80-00256**	**80-00114**	**80-00115**
Batrachochytrium dendrobatidis	VSS		•	•
Mycobacterium chelonae	E, K, L, LS	•	•	•
Mycobacterium gordonae	E, K, L, LS	•	•	•
Mycobacterium marinum	E, K, L, LS	•	•	•
Mycobacterium ulcerans/liflandii	E, K, L, LS	•	•	•
NEW Mycobacterium xenopi	E, K, L, LS	•	•	•
Pseudocapillaroides xenopi	DSS		•	•
Ranavirus spp.	F, T		•	•
Cryptosporidium spp.	F			•
Pseudomonas aeruginosa	F. LS			•
Salmonella spp.	F			•
NEW Chlamydia pneumoniae	F, L			•
NEW Chlamydia suis	F, L			•
NEW Chlamydia psittaci	F, L			•

Xenopus Microbiology Panel

	Preferred Sample Type(s)	Xenopus Microbiology
Turnaround time		10-14 days
Test code		**80-00016**
Aeromonas dhakensis	F, AS, SS, T, E	•
Aeromonas hydrophilia	F, AS, SS, T, E	•
Elisabethkingia meningoseptica	F, AS, SS, T, E	•
Pseudomonas aeruginosa	F, AS, SS, T, E	•
Salmonella enterica	F	•
Saprolegnia spp.	F, SS, T, E	•

Sample Type Legend

AS = Aseptic swab or aseptic stab, DSS = Dorsal skin swab, E = Environmental sample, F = Feces, K = Kidney, L = Liver, LS = Lesion swab, SS = Skin swab, T = Tissue, VSS = Ventral skin swab

Diagnostic Pathology Services

Service includes:

- Histologic slide preparation
- H&E and Acid-Fast stains
- Pathologist's evaluation and report

Test name	Preferred sample type(s)	Turnaround time	Test Code
Zebrafish Pathology		12-15 days	**86-00022**
Small Fish Pathology Fish (non zebrafish), medaka (0-6cm)		12-15 days	**86-00048**
Medium Fish Pathology Bettas, cavefish, goldfish, killifish (7-13cm)		12-15 days	**86-00049**
Large Fish Pathology Carp, large goldfish, other (over 13cm)		12-15 days	**86-00061**
Diagnostic Pathology – Aquatic Species Xenopus, frog, axolotl, other (includes newts, salamanders)		12-15 days	**86-00087**

We offer Necropsy and Histopathology Services to rodents, rabbits, aquatic and other species. Please contact CSS for more information.

Agents that cause damage to Aquatic Systems

Bryozoans can become a nuisance in water pipes and holding tanks. They are prolific growers in the right conditions. Excessive growth can potentially cause pipe or filter blockages that may pose a risk to aquariums and research.

Test name	Preferred sample type(s)	Turnaround time	Test Code
Plumatellidae	E	8-10 days	**80-00224**

Sample Type Legend
E = Environmental sample

Aquatics Individual PCR Assays

Test Name	Preferred sample type(s)	Species	Test Code
A			
Aeromonas hydrophila	E, WF	Axolotl, xenopus, zebrafish	**80-00020**
B			
Batrachochytrium dendrobatidis	E, SS, VSS	Axolotl, xenopus	**80-00083**
Batrachochytrium salamandrivorans	E, SS	Axolotl	**80-00087**
C			
Chilomastix spp.	F	Axolotl	**80-00177**
NEW Chlamydia pneumoniae	L	Xenopus	**80-00238**
NEW Chlamydia psittaci	L	Xenopus	**80-00237**
NEW Chlamydia suis	L	Xenopus	**80-00259**
NEW Colepidae	E	Zebrafish	**80-00264**
NEW Covert mortality nodavirus (CMNV)	E, WF	Zebrafish	**80-00268**
Cryptosporidium spp.	F	Xenopus	**80-00057**
E			
Edwardsiella ictaluri	E, WF	Zebrafish	**80-00011**
F			
Flavobacterium columnare	E, SS, WF	Axolotl, zebrafish,	**80-00033**
G			
NEW Gyrodactylus banmae	E, FW	Zebrafish	**80-00266**
I			
Ichthyophthirius multifiliis	WF	Zebrafish	**80-00014**
Infectious spleen and kidney necrosis virus (ISKNV)	WF	Zebrafish	**80-00015**
M			
Mycobacterium abscessus	E, WF	Zebrafish	**80-00017**
Mycobacterium chelonae	E, K, L , LS, T, WF	Axolotl, xenopus, zebrafish	**80-00006**
Mycobacterium fortuitum	E, WF	Zebrafish	**80-00037**
Mycobacterium gordonae	E, K, L , LS, WF	Xenoups, zebrafish	**80-00175**
Mycobacterium haemophilum	E, WF	Zebrafish	**80-00038**
Mycobacterium marinum	E, K, L , LS, T, WF	Axolotl, xenopus, zebrafish	**80-00008**
Mycobacterium peregrinum	E, WF	Zebrafish	**80-00019**
Mycobacterium saopaulense	E, WF	Zebrafish	**80-00089**
Mycobacterium ulcerans/liflandii	E, K, L, LS	Xenopus	**80-00225**
NEW Mycobacterium xenopi	E, K, L, LS	Xenopus	**80-00262**
Myxidium streisingeri	E, WF	Zebrafish	**80-00091**

Test Name	Preferred sample type(s)	Species	Test Code
P			
Piscinoodinium pillulare	SS, WF	Axolotl, zebrafish,	**80-00012**
Pleistophora hyphessobryconis	WF	Zebrafish	**80-00013**
Plumatellidae	E		**80-00224**
Pseudocapillaria tomentosa	E, WF	Zebrafish	**80-00010**
Pseudocapillaroides xenopi	DSS	Xenopus	**80-00158**
Pseudoloma neurophilia	WF	Zebrafish	**80-00044**
Pseudomonas aeruginosa		Xenopus	**80-00240**
R			
Ranavirus spp.	F, T	Axolotl, xenopus	**80-00092**
Red spotted grouper nervous necrosis virus (RGNNV)	WF	Zebrafish	**80-00226**
NEW Rocky mountain birnavirus (RMBV)	E, FW	Zebrafish	**80-00270**
S			
Salmonella spp.	F	Axolotl, xenopus	**80-00111**
Saprolegnia brachydanis	WF	Zebrafish	**80-00212**
NEW Spring viremia of carp virus (SVCV)*	F	Zebrafish	**80-00272**
V			
NEW Viral hemorrhagic septicemia virus (VHSV)*	F	Zebrafish	**80-00273**
Z			
Zebrafish picornavirus (ZfPV1)	F, WF	Zebrafish	**80-00167**

* Test performed in a third-party laboratory, requires separate sample, cannot be pooled please contact the CSS team for more details.

We offer additional PCR tests not listed. Please contact the Client Support Services team if you do not see a specific test listed.

Sample Type Legend

DSS = Dorsal skin swab, E = Environmental sample, F = Feces, K = Kidney, L = Liver, LS = Lesion swab, SS = Skin swab, T = tissue, VSS = Ventral skin swab, WF = Whole fish

Additional Sample Information

Zebrafish and other laboratory fish

- For submission of fish for PCR only: Please submit frozen fish in conical tube(s) with sufficient ice packs to ensure that fish remain frozen during transit. Dry ice is not required. You can pool up to 5 adult fish in the same tube to be tested as one sample. We do not recommend pooling fish of different health statuses or across different systems, like quarantine and a main system for example.

- For submission of fish embryos or larvae for PCR: Please euthanize embryos and submit 2 mL frozen on ice packs. Dry ice is not required.

- For submission of fish for histopathology only: Please either submit fish fixed in 10% buffered formalin or another formalin-based fixative such as Dietrich's, Davidson's, or Bouin's fixative (please indicate). To ensure proper fixation, open up the coelom (abdomen). This can be accomplished by making a lengthwise incision through the body wall or by removing a small piece of the body wall. Fish cannot be pooled for histopathology. Samples may be shipped at ambient temperature by overnight courier.

- For submission of fish for both histopathology and PCR, please submit separate fish for each service per above recommendations.

Environmental samples and feeds

- For submission of detritus (biofilm or sediment) for PCR: Please collect 2 mL of detritus into a tube and submit with cold packs. Dry ice is not required. Collection of detritus is recommended over environmental swabs.

- For submission of fish feces for PCR: Please collect a pool of fish feces into a microcentrifuge tube and submit frozen with cold packs. Dry ice is not required.

- For submission of live feed cultures for PCR: Please submit at least 1 mL of live feed cultures (e.g. Artemia, Rotifer, or Paramecium) frozen with cold packs. Dry ice is not required.

Samples for bacterial or fungal culture

- For submission of culture swabs: Please submit culture swabs collected from skin, gills, or lesioned organs in a culturette containing a suitable transport medium, such as Amies Medium. Swabs should be shipped with cold packs in an insulated container by overnight courier. Please make sure to provide adequate insulation (e.g. bubble wrap, toweling, etc.) between ice packs and samples to prevent freezing.

- For identification of bacterial and fungal cultures by MALDI-TOF mass spectrometry: Please submit pure cultures on agar plates wrapped in ParafilmTM. Swabs and plates should be shipped with cold packs making sure to provide adequate insulation (e.g. bubble wrap, toweling, etc.) between ice packs and samples to prevent freezing, in an insulated container by overnight courier.

- For culture of water samples: Please submit 50 mL of water in a plastic container with a tight-fitting lid that will not leak in transit. Water samples should be shipped with cold packs in an insulated container by overnight courier.

Additional Species Health Monitoring

We offer a wide range of growing testing capabilities for additional species. Please contact our CSS Team for more information.

Canine Health Monitoring

- Dog FELASA non-vaccinated Profile
- Dog FELASA vaccinated Profile

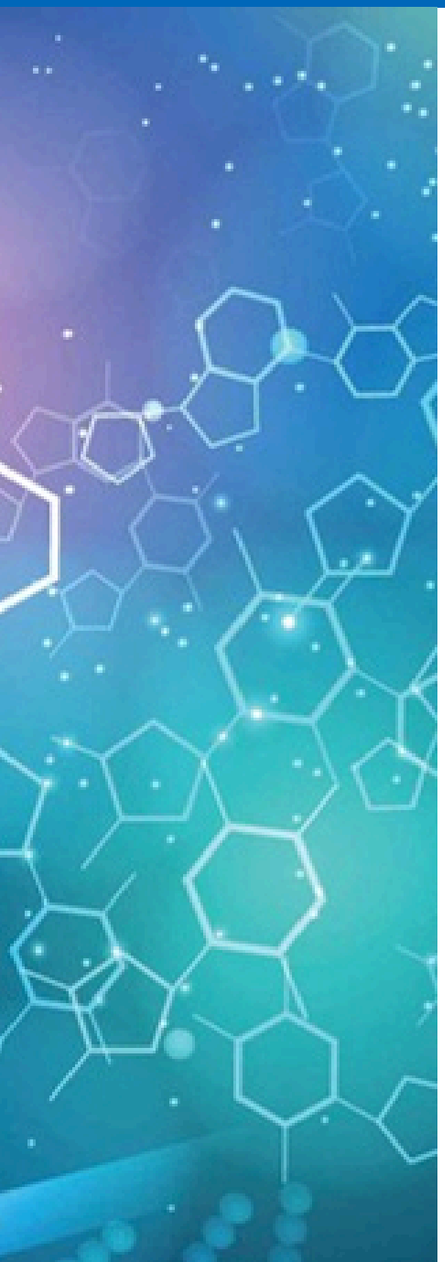
Non-Human Primates Diagnostics

The IDEXX BioAnalytics NHP portfolio provides you with deeper insight that can be helpful in determining the most effective course of treatment as well as helping to identify possible sources of infection, with a comprehensive array of PCR, microbiology and parasitology panels to meet your NHP diagnostic needs.

- Enteric PCR Profiles
- Expanded Microbiology and Parasitology Profiles
- Clinical Chemistries
- Hematology

Biologics & Cell Health

Fast and accurate testing for all cell health applications



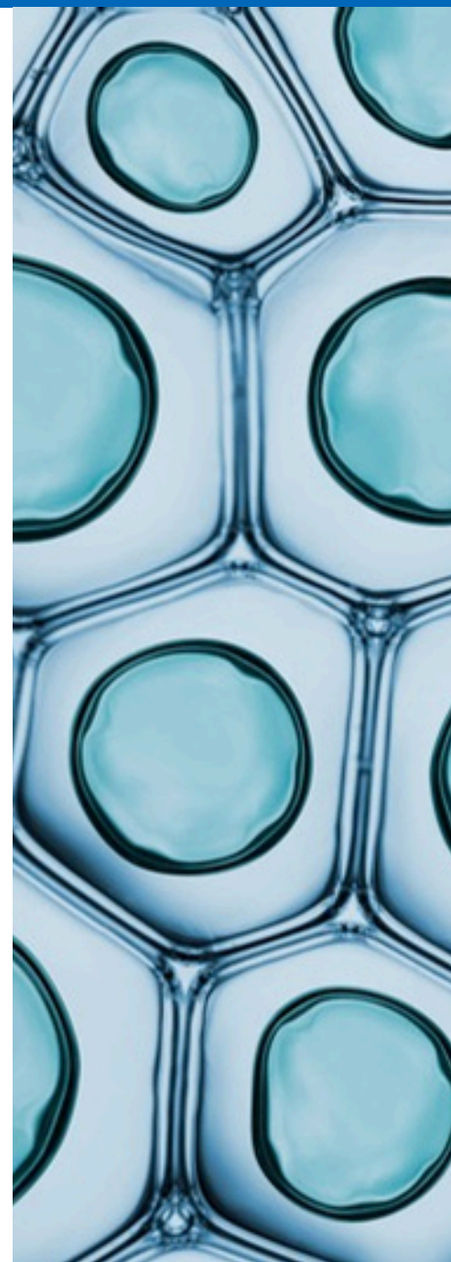
We know **Stem Cells**
Human pluripotent stem cells are essential for creating advanced models for drug screening, disease modeling and development of cell therapies. However, manipulation causes stress, and users should carefully monitor cells for genetic anomalies, track cell line identity, and screen for potential contaminants.

We know **Tumor Research**
Understanding tumor behavior and analysis of regression based on therapeutic intervention is paramount for therapy pipeline progression. Researchers need to characterize all aspects of their model systems and to be confident in study conclusions.

We know **Mammalian Cell Culture**
Whether you are using classic immortalized lines, custom-made knockouts or knock-ins, or feeding a screening core, mammalian cells are the backbone of modern research – and IDEXX is the ideal partner to ensure your cells deliver accurate results daily.

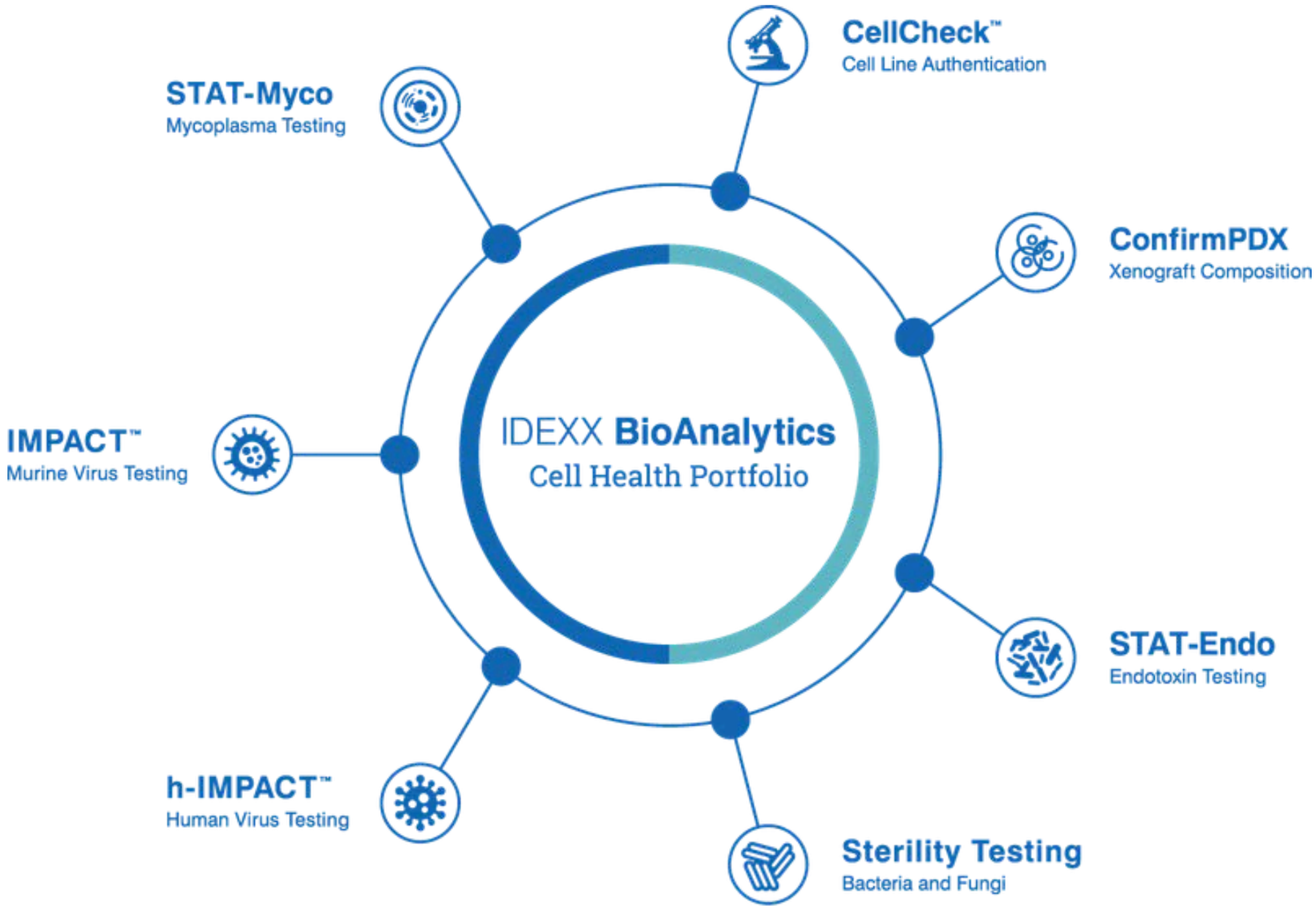
We know **Bioproduction**
Biological expression systems are essential for creating the next generation monoclonal antibody or peptide-based therapeutics. At any research-level scale, IDEXX can help you monitor your bioproduction systems for unwanted contaminants.

We know **Organoids**
Organoids, 3D culture, and organ-on-chip have rapidly become popular models for discovery, drug screening and toxicology work. Organoids are complex cellular models and IDEXX is ready to help with the advanced monitoring needed to deliver breakthrough data.



We’re on the journey with you

When it comes to third-party validation, nobody does it better than IDEXX BioAnalytics. We have the portfolio to take care of all your valuable research.



Rodent Pathogen Testing

IMPACT™ Panels
Individual PCR Assays

Cell Line Authentication

CellCheck™ Human Panels
CellCheck™ Rodent Panel
CellCheck™ Canine Panel
Interspecies Contamination

Sterility Testing

Aerobic Bacteria and Fungi
Aerobic & Anaerobic Bacteria and Fungi

Human Pathogen Testing

h-IMPACT™ Panels
Individual PCR Assays

ConfirmPDX

Endotoxin Testing

STAT-Endo™ LAL Testing

Mycoplasma Detection

STAT-Myco™ Testing

Rodent Pathogen Testing

IMPACT™ cell line and biological testing for murine pathogens offers molecular diagnostic (PCR) assays to aid in the detection of viral agents and Mycoplasma in biologic specimens. Many types of biological material can be infected with murine pathogens that can pose a risk of disease outbreaks in animal facilities. Contaminated specimens can also introduce unwanted research variables.

IMPACT™ Mouse Profiles

	IMPACT™ 1	IMPACT™ 2	IMPACT™ 3	IMPACT™ 4	IMPACT™ SC	IMPACT™ FELASA
Turnaround time	5-7 days	5-7 days	5-7 days	5-7 days	5-7 days	5-7 days
Test code	**41-00021**	**41-00031**	**41-00041**	**41-00051**	**41-00108**	**41-00185**
Mycoplasma pulmonis (MPUL)	•	•	•	•	•	•
Mycoplasma spp. (MYCO)	•	•	•	•	•	•
Mouse hepatitis virus (MHV)	•	•	•	•	•	•
Minute virus of mice (MVM)	•	•	•	•	•	•
Mouse parvovirus (MPV1-5)	•	•	•	•	•	•
Theiler's murine encephalomyelitis virus (TMEV)	•	•	•	•	•	•
Sendai virus (SEND)	•	•	•	•		•
Pneumonia virus of mice (PVM)	•	•	•	•		•
Murine norovirus (MNV)	•	•	•			•
Reovirus 3 (REO3)	•	•	•			•
Mouse rotavirus (EDIM)	•	•	•			•
Ectromelia virus (ECTRO)	•	•	•			•
Lymphocytic choriomeningitis virus (LCMV)	•	•	•			•
Mouse polyomavirus (MPyV)	•	•	•			
Lactate dehydrogenase-elevating virus (LDEV)	•	•	•			
Mouse adenovirus (MAV1)	•	•				•
Mouse adenovirus (MAV2)	•	•				•
Mouse cytomegalovirus (MCMV)	•	•				
K virus (K)	•					
Mouse thymic virus (MTV)	•					
Hantaan virus (HANT)	•					
Corynebacterium bovis	•					•
Corynebacterium spp. (HAC2)	•					•
Mouse kidney parvovirus (MKPV)	•					

IMPACT™ Rat Profiles

	IMPACT™ 5	IMPACT™ 6	IMPACT™ FELASA
Turnaround time	5-7 days	5-7 days	5-7 days
Test code	**41-00060**	**41-00070**	**41-00186**
Mycoplasma pulmonis (MPUL)	•	•	•
Mycoplasma spp. (MYCO)	•	•	•
Pneumonia virus of mice (PVM)	•	•	•
Kilham's rat virus (KRV)	•	•	•
Toolan's H-1 virus (H-1)	•	•	•
Rat parvorvirus (RPV)	•	•	•
Rat minute virus (RMV)	•	•	•
Lymphocytic choriomeningitis virus (LCMV)	•	•	
Rat cytomegalovirus (RCMV)	•	•	
Sendai virus (SEND)	•	•	•
Rat coronavirus/Sialodacryoadenitis virus (RCV(SDAV)	•	•	•
Seoul virus (SEOV)	•		•
Mouse adenovirus (MAV1)	•		•
Mouse adenovirus (MAV2)	•		•
Reovirus 3 (REO3)	•		•
Rat theilovirus (RTV)	•		•
Corynebacterium bovis	•		•
Corynebacterium spp. (HAC2)	•		•

IMPACT™ Hamster Profile

	IMPACT™ 7
Turnaround time	5-7 days
Test code	**41-00079**
Mycoplasma pulmonis (MPUL)	•
Mycoplasma spp. (MYCO)	•
Pneumonia virus of mice (PVM)	•
Kilham's rat virus (KRV)	•
Toolan's H-1 virus (H-1)	•
Hamster parvovirus (HaPV)	•
Minute virus of mice (MVM)	•
Lymphocytic choriomeningitis virus (LCMV)	•
Theiler's murine encephalomyelitis virus (TMEV)	•
Sendai virus (SEND)	•
Reovirus 3 (REO3)	•
Hantaan virus (HANT)	•

IMPACT™ (Mouse / Rat) Comprehensive Profile

	IMPACT™ 8
Turnaround time	5-7 days
Test code	**41-00090**
Mycoplasma pulmonis (MPUL)	•
Mycoplasma spp. (MYCO)	•
Sendai virus (SEND)	•
Pneumonia virus of mice (PVM)	•
Mouse hepatitis virus (MHV)	•
Minute virus of mice (MVM)	•
Mouse parvovirus (MPV1-5)	•
Murine norovirus (MNV)	•
Reovirus 3 (REO3)	•
Mouse rotavirus (EDIM)	•
Ectromelia virus (ECTRO)	•
Lymphocytic choriomeningitis virus (LCMV)	•
Mouse polyomavirus (MPyV)	•
K virus (K)	•
Mouse adenovirus (MAV1)	•
Mouse adenovirus (MAV2)	•
Mouse cytomegalovirus (MCMV)	•
Lactate dehydrogenase-elevating virus (LDEV)	•
Mouse thymic virus (MTV)	•
Hantaan virus (HANT)	•
Kilham's rat virus (KRV)	•
Toolan's H-1 virus (H-1)	•
Rat parvorvirus (RPV)	•
Rat minute virus (RMV)	•
Rat cytomegalovirus (RCMV)	•
Rat coronavirus/Sialodacryoadenitis virus (RCV(SDAV)	•
Rat theilovirus (RTV)	•
Seoul virus (SEOV)	•
Theiler's murine encephalomyelitis virus (TMEV)	•
Corynebacterium bovis	•
Mouse kidney parvovirus (MKPV)	•

Human Pathogen Testing

Contamination of cell lines and tumors with human pathogens poses significant health risks to personnel and can introduce unwanted variables to your research. Although human viruses have a low incidence rate in laboratory materials, they can be pernicious in their ability to infect and destroy the growth and performance of cell lines, obliterating data integrity.

The presence of biological materials in a laboratory presents a significant health risk to laboratory workers, putting the company at risk of health violations, monetary fines, or even criminal lawsuits.

Bottom line: the threat to human health is simply not worth the risk.

h-IMPACT™ Profiles

	h-IMPACT™ 1	h-IMPACT™ 2	h-IMPACT™ 3	h-IMPACT™ Oncogenic	h-IMPACT™ Comprehensive
Turnaround time	5-7 days	5-7 days	5-7 days	5-7 days	5-7 days
Test code	**41-00093**	**41-00095**	**41-00010**	**41-00196**	**41-00195**
Mycoplasma spp. (MYCO)	•	•	•	•	•
Human immunodeficiency virus 1 (HIV1)	•	•	•		•
Human immunodeficiency virus 2 (HIV2)	•	•	•		•
Human T-lymphotropic virus 1 (HTLV1)	•	•		•	•
Human T-lymphotropic virus 2 (HTLV2)	•	•			•
Hepatitis virus A (HepA)	•	•	•		•
Hepatitis virus B (HepB)	•	•	•	•	•
Hepatitis virus C (HepC)	•	•	•	•	•
Hantaan virus (HANT)	•		•		•
Seoul virus (SEOV)	•		•		•
Sin nombre virus (SNV)	•		•		•
Corynebacterium bovis	•				•
Corynebacterium spp. (HAC2)	•				•
Herpes simplex 1 (HSV1)	•				•
Herpes simplex 2 (HSV2)	•				•
Human cytomegalovirus (HCMV)	•				•
Human herpes virus 6 (HHV6)	•				•
Human herpes virus 8 (HHV8)	•			•	•
Human adenovirus (HAdV)	•				•
Human papillomavirus 16 (HPV16)	•			•	•
Human papillomavirus 18 (HPV18)	•			•	•

continued	h-IMPACT™ 1	h-IMPACT™ 2	h-IMPACT™ 3	h-IMPACT™ Oncogenic	h-IMPACT™ Comprehensive
Lymphocytic choriomeningitis virus (LCMV)	•				•
Varicella virus (VZV)	•				•
Epstein-Barr virus (EBV)	•			•	•
Treponemapallidum (Syphilis)	•				•
Adeno-associated virus (AAV)				•	•
BK polyomavirus (BKPyV)				•	•
Human betaherpesvirus 7 (HHV-7)					•
Human foamy virus (HFV)					•
JC polyomavirus (JCPyV)				•	•
Merkel cell polyomavirus (MCPyV)				•	•
B19 parvovirus (B19)				•	•
SV40 polyomavirus (SV40)				•	•

Mycoplasma Detection

STAT-Myco™ is a highly sensitive real-time PCR assay that can detect over 100 different *Mycoplasma* species. Testing for this contaminant ensures the quality of your biological materials, preventing erroneous data obtained from in *in vitro* and *in vivo* studies.

Test name	Specimen requirements	Turnaround time	Test Code
STAT-Myco™	1x10^6 cells/cryovial; 0.5 mL liquid sample	3 days	**40-00239**

Individual PCR Assays

Test name	Turnaround time	Test Code
A		
Adeno-associated virus (AAV)	5-7 days	**40-00276**
B		
B19 parvovirus (B19)	5-7 days	**40-00274**
BK polyomavirus (BKPyV)	5-7 days	**40-00279**
C		
Corynebacterium bovis	5-7 days	**40-00115**
Corynebacterium spp. (HAC2)	5-7 days	**40-00242**
E		
Ectromelia virus (ECTRO)	5-7 days	**40-00176**
Epstein-Barr virus (EBV)	5-7 days	**40-00197**
H		
Hamster parvovirus (HaPV)	5-7 days	**40-00216**
Hantaan virus (HANT)	5-7 days	**40-00005**
Helicobacter spp.	5-7 days	**40-00229**
Hepatitis virus A (HepA)	5-7 days	**40-00265**
Hepatitis virus B (HepB)	5-7 days	**40-00199**
Hepatitis virus C (HepC)	5-7 days	**40-00200**
Human adenovirus (HAdV)	5-7 days	**40-00238**
Human betaherpesvirus 7 (HHV-7)	5-7 days	**40-00280**
Human cytomegalovirus (HCMV)	5-7 days	**40-00203**
Human foamy virus (HFV)	5-7 days	**40-00281**
Human herpes simplex 1 (HSV1)	5-7 days	**40-00201**
Human herpes simplex 2 (HSV2)	5-7 days	**40-00089**
Human herpes virus 6 (HHV6)	5-7 days	**40-00030**
Human herpes virus 8 (HHV8)	5-7 days	**40-00031**
Human immunodeficiency virus 1 (HIV1)	5-7 days	**40-00139**
Human immunodeficiency virus 2 (HIV2)	5-7 days	**40-00086**
Human papillomavirus 16 (HPV16)	5-7 days	**40-00137**
Human papillomavirus 18 (HPV18)	5-7 days	**40-00087**
Human T-lymphotropic virus 1 (HTLV1)	5-7 days	**40-00090**
Human T-lymphotropic virus 2 (HTLV2)	5-7 days	**40-00138**
J		
JC polyomavirus (JCPyV)	5-7 days	**40-00275**
K		
K virus (K)	5-7 days	**40-00091**
Kilham's rat virus (KRV)	5-7 days	**40-00218**

Rodent & Human Pathogen Testing

Test name	Turnaround time	Test Code
L		
Lactate dehydrogenase-elevating virus (LDEV)	5-7 days	**40-00214**
Lymphocytic choriomeningitis virus (LCMV)	5-7 days	**40-00093**
M		
Merkel cell polyomavirus (MCPyV)	5-7 days	**40-00278**
Minute virus of mice (MVM	5-7 days	**40-00184**
Mouse adenovirus 1 (MAV1)	5-7 days	**40-00052**
Mouse adenovirus 2 (MAV2)	5-7 days	**40-00135**
Mouse cytomegalovirus (MCMV)	5-7 days	**40-00212**
Mouse hepatitis virus (MHV)	5-7 days	**40-00209**
Mouse kidney parvovirus (MKPV)	5-7 days	**40-00261**
Mouse parvovirus (MPV1-5)	5-7 days	**40-00183**
Mouse polyomavirus (MPyV)	5-7 days	**40-00018**
Mouse rotavirus (EDIM/MRV)	5-7 days	**40-00190**
Mouse thymic virus (MTV)	5-7 days	**40-00215**
Murine astrovirus1 (MuAstV1)	5-7 days	**40-00206**
Murine norovirus (MNV)	5-7 days	**40-00095**
Mycoplasma pulmonis (MPUL)	5-7 days	**40-00231**
Mycoplasma spp. (MYCO)	5-7 days	**40-00239**
P		
Pneumonia virus of mice (PVM)	5-7 days	**40-00221**
R		
Rat coronavirus/Sialodacryoadenitis virus (RCV/SDAV)	5-7 days	**40-00210**
Rat cytomegalovirus (RCMV)	5-7 days	**40-00213**
Rat minute virus (RMV)	5-7 days	**40-00219**
Rat parvovirus (RPV)	5-7 days	**40-00220**
Rat theilovirus (RTV)	5-7 days	**40-00222**
Reovirus type 3 (REO3)	5-7 days	**40-00223**
S		
Sendai virus (SEND)	5-7 days	**40-00225**
Seoul virus (SEOV)	5-7 days	**40-00310**
Severe acute respiratory syndrome coronavirus 2 (SARS-CoV2)	5-7 days	**40-00266**
Sin nombre virus (SNV)	5-7 days	**40-00308**
SV40 polyomavirus (SV40)	5-7 days	**40-00277**
T		
Theiler's murine encephalomyelitis virus (TMEV)	5-7 days	**40-00226**
Toolan's H-1 virus (H-1)	5-7 days	**40-00217**
Treponema pallidum (Syphilis)	5-7 days	**40-00141**
V		
Varicella virus (ZVZ)	5-7 days	**40-00103**

Additional Sample Information

- Collection of material should be performed aseptically to prevent contamination of samples.
- To submit cells, cell culture or a liquid sample: Submit one cryovial containing approximately 1x10^6 cells/vial of each biological or cultured cell sample. If limited amounts of samples are available or require evaluation, call for more information. Cells may be in the form of a pellet or in growth media, freeze media or phosphate buffered saline (PBS). For liquid samples, submit one cryovial of each sample with 0.5 mL of sample/vial.
- To submit tissue/solid tumor samples: Submit a 1.5 mL snap top or screw top tube of each sample with a minimum of 30 mg of tissue (2–3mm size fragment or larger).
- To submit antibody samples: Submit 0.5 mL antibody for testing. If optimal sample volume is not available, we recommend submission of at least the amount of antibody that will be injected into a single animal.
- Sample shipping: Ship samples by overnight courier with sufficient ice packs or dry ice so that samples remain frozen during shipment.

We offer additional PCR tests not listed. Please contact the Client Support Services team if you do not see a specific test listed.

Cell Line Authentication

CellCheck™ is much more than just an STR profile. It's a comprehensive cell line authentication service that utilizes STR-based DNA profiling and PCR to detect both contamination and misidentification of your cell lines.

We provide data analysis and interpretation, including comparative assessments against a reference profile or profile obtained from a parental cell line. We will even help you to develop a contamination recovery plan, if necessary. Cell line misidentification and contamination can put the integrity of your data at risk and can cause unnecessary use of animals.

All CellCheck™ services include:

- Interspecies contamination check for human, mouse, rat, African green monkey, and Chinese hamster
- Comparative analysis, if published profile available
- Data interpretation
- Expert consultation

CellCheck™ Human Profiles

Test name and components	Specimen requirements	Turnaround time	Test Code
CellCheck™ 9 Human Human 9 species specific STR marker profile	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00095**
CellCheck™ 9 Human PLUS incl. *Mycoplasma* spp. testing	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00096**
CellCheck™ 16 Human Establishes genetic profile using 16 human STR markers	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00097**
CellCheck™ 16 Human PLUS incl. *Mycoplasma* spp. testing	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00098**

We recommend a 16 STR marker CellCheck™ when a new human cell line is established or, in any case, at the beginning of the experiment.

CellCheck™ Rodent and Canine Profiles

Test name and components	Specimen requirements	Turnaround time	Test Code
CellCheck™ 19 Mouse Establishes genetic profile with 19 species specific STR markers Exceeds the published NIST 18 marker set for a higher power of discrimination.	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00108**
CellCheck™ 19 Mouse PLUS incl. *Mycoplasma* spp. testing	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00109**
CellCheck™ Rat Establishes genetic profile using 31 species specific STR markers	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00101**
CellCheck™ Rat PLUS incl. *Mycoplasma* spp. testing	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00102**
CellCheck™ Canine Establishes genetic profile using 14 species specific STR markers	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00068**
CellCheck™ Canine PLUS incl. *Mycoplasma* spp. testing	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00071**

Interspecies Contamination Testing

Test name and components	Specimen requirements	Turnaround time	Test Code
Interspecies Contamination Only Recommended as a standalone for African green monkey and Chinese hamster	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00056**
Interspecies Contamination Only PLUS incl. *Mycoplasma* spp. testing	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00086**
Interspecies Contamination Only, Add-on Species Canine, porcine and laboratory rabbit	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00111**
CO1 DNA Barcoding Confirms the cell line species of origin. Utilizes the sequence data for approximately 660 base pair region of the mitochondrial cytochrome C oxidase subunit 1 (CO1) gene. Complies with American National Standards Institute (ANSI) guidelines for species identification of animal cell lines.	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00088**
CO1 DNA Barcoding PLUS incl. *Mycoplasma* spp. testing	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00344**

ConfirmPDX

As patient-derived xenograft (PDX), cell line-derived xenograft (CDX), and transplantable tumor models play strong roles in preclinical cancer research, identifying how much of a sample is of human origin vs. mouse can be key to revealing treatment-related results and choosing tumor fragments with the highest percentage of human tissue for cryopreservation and future passage.

Test name and components	Specimen requirements	Turnaround time	Test Code
ConfirmPDX	1x10^6 cells/cryovial; 30 mg tissue, solid tumor; 150 ng DNA	5-7 days	**42-00112**

Additional Sample Information

- To submit cells: Send one cryovial (or other screw-top tube) of each sample with approximately 1x10^6 cells/vial. Cells may be in the form of a pellet or in growth media, freeze media or phosphate-buffered saline. NOTE: cells are preferred, but if DNA is high quality, it may be submitted.
- To submit tissue/solid tumor samples: Send a 1.5 mL snap top or screw top tube of each sample with a minimum of 30 mg of tissue (2–3 mm size fragment or larger).
- To submit DNA: DNA must be submitted as high quality extracted DNA (crude lysate extractions are not suitable for STR analysis). DNA needs to be submitted with a minimum of 150 ng of DNA in a minimum volume of 15 µl. Optimal 260:280nm ratio of 1.8 for DNA purity accepted. Optimal concentrations submitted are preferred at >20 ng/µl. DNA concentration must be at least 10 ng/µl. NOTE: Frozen cell cultures or tissue are preferred. Submission of cells allows extraction of the DNA in our facility for optimal DNA quality and test results. Send DNA in a tube with screw top cap if available. If a snap top tube is used, secure the top with Parafilm™ before shipping. DNA samples can be shipped at room temperature. During hot weather, ship samples overnight with an ice pack to prevent exposure to excessive heat.
- Sample shipping: Ship samples by overnight courier with sufficient ice packs or dry ice so that samples remain frozen during shipment

Sterility Testing

Sterility testing can identify contaminants that pose a risk to human and animal health. Our cell line sterility testing determines if microbial contamination is present in cell lines media and other biological materials; moreover, due to the extraordinary sensitivity and large spectrum of detection, it can often provide additional information on the source of an infection; be it animals, people or other.

All services includes:

- Direct inoculation on a battery of eight media, incubated for a period of 10 days
- Identification of Microbial Contaminants by MALDI-TOF Mass Spectrometry

Test name and components	Specimen requirements	Turnaround time	Test Code
Cell Line Sterility Profile: Direct Inoculation Protocol	1–1.5 mL tissue culture media and cellular material (if present)	14 days	**43-00008**
Cell Line Sterility Profile and Anaerobic Culture	1–1.5 mL tissue culture media and cellular material (if present)	14 days	**43-00036**
Cell Line Sterility Profile and *Mycoplasma* spp. PCR Assay	1–1.5 mL tissue culture media and cellular material (if present)	14 days	**43-00022**

Additional Sample Information

- The optimum sample will include both tissue culture media and cellular material (if present) because some micro-organisms are intracellular or highly cell associated. Any remaining material is held at 4°C during incubation as a backup or possible confirmatory testing.
- Submit a sample volume of 1000–1500 µL (1-1.5 mL) so that repeat testing can be performed if deemed advisable (no additional charge). The inoculum size per medium is 100 µL.
- All samples should be shipped via overnight courier, packed with adequate ice packs to maintain cool temperature and adequate insulation to prevent freezing. Ship on dry ice when cells are bank frozen.

When combining biological material testing services that include sterility, microbial, and/or genetic contamination testing:

- Please submit 2 aliquots from each sample. A single vial of approximately 1 million cells is required for the microbial and/or genetic contamination testing. A separate vial of cells (approximately 1 million cells in 1mL of media) is required for sterility testing.

Endotoxin Testing

Endotoxin testing is an essential component of your holistic approach to cell health and biological materials testing. Endotoxin is derived from bacterial cell membranes, and due to its amphipathic nature, they stick to plastics and are an all-too-common laboratory contaminant. Our chromogenic assay can deliver precise endotoxin quantification on nearly any sample type.

The IDEXX LAL assay detects bacterial endotoxin by chromogenic, Limulus Amebocyte Lysate-based method. The assay is for the in vitro quantitative determination of various biological fluids (sera, plasma), devices (PBS wash), air (filters), and tissue culture medium. The assay is intended for research use only and is not for use in diagnostic or therapeutic procedures or applications.

Test name and components	Specimen requirements	Turnaround time	Test Code
STAT-Endo™ (LAL)	250 µL cell culture media, plasma, serum, medical device wash, filter wash; 1 mL if combined with other services	14 days	**44-00005**
STAT-Endo™ (LAL) – Consultative cases	Any material suitable for endotoxin testing that is not listed above.	14 days	**44-00006**

Additional Sample Information

- Ship samples by overnight courier with sufficient ice packs or dry ice that samples remain frozen during shipment.

Terms & Conditions

Unless otherwise agreed in an agreement signed by IDEXX, IDEXX BioAnalytics laboratory analytical services (data collection, analysis and interpretation, and reference laboratory services) provided by IDEXX to you, the client, are subject solely to the terms and conditions stated herein (the "Standard Terms and Conditions") and in any terms appearing on the back of our invoices and billing statements to you. The Standard Terms and Conditions stated herein control in the event of any conflict. IDEXX may make changes to the Standard Terms and Conditions from time to time. When these changes are made, IDEXX will make a new copy of the Standard Terms and Conditions available on its website. You acknowledge and agree that if you use the IDEXX BioAnalytics laboratory analytical services after the date on which the Standard Terms and Conditions have changed, IDEXX will treat your use as acceptance of the updated Standard Terms and Conditions.

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Delivery of Results. Upon timely delivery of specimens, IDEXX will use commercially reasonable efforts to meet turnaround times as agreed by the parties. IDEXX will advise you of specimens that we receive in damaged, contaminated or improperly preserved condition or that do not meet the specimen volume requirements. IDEXX assumes the risk of loss or damage to a specimen at the time possession of the specimen is delivered to an IDEXX employee. IDEXX reserves the right to refuse to accept or to rescind acceptance of any specimen that, in the judgment of IDEXX, is likely to pose any unreasonable risk in handling and/or analysis. You represent and warrant that any specimen containing any hazardous substance that is to be delivered to IDEXX will be packaged, labeled, transported and delivered in accordance with applicable laws and will indemnify IDEXX for any damages suffered by IDEXX as a result of your tender of improperly packaged, labeled, transported and delivered hazardous substances.

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Retention of Specimens. Unless otherwise agreed in writing, IDEXX shall retain non-histology specimens in our storage facilities for three weeks after analytical results are reported, after which time the specimens may be destroyed. All histology materials, including slides, blocks and wet tissues, are returned with our reports.

Hazardous Materials. We may return to you unused portions of specimens found or suspected to be hazardous or to contain hazardous materials according to state or federal guidelines upon completion of the analytical work. We may invoice you for the cost of returning the specimen.

Specimen Containers. IDEXX may provide specimen containers upon request. IDEXX reserves the right to charge a fee for specimen containers.

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Retention of Data and Reports. Unless otherwise agreed in writing, you are responsible for retention of raw data and all reports; IDEXX does not store data, reports or other materials long-term at our facilities. IDEXX will assist you in arranging for offsite archiving of such materials. You shall be responsible for all costs of shipping, handling and storage. You assume the risk of loss in transit or storage of any such data or reports at our facilities or elsewhere.

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