NORTH AMERICA

IDEXX **BioAnalytics**

# 2023 Directory of Tests and Services



IDEXX

# Table of Contents

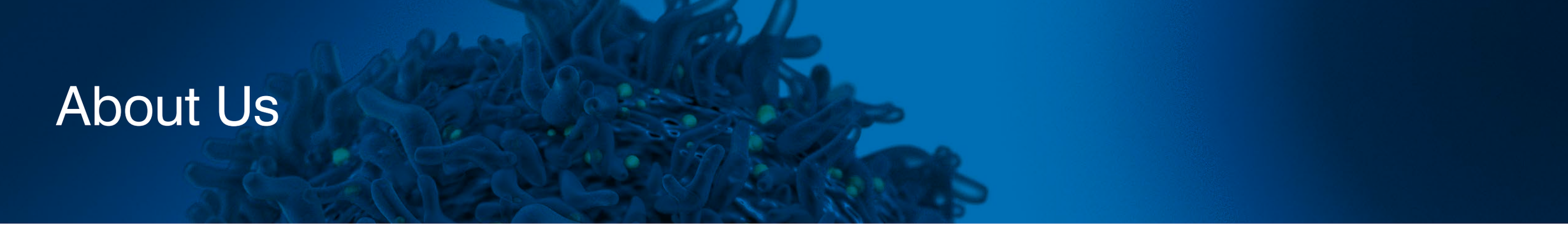
→ About Us

→ Directory of Tests and Services

→ Preclinical Services

→ Animal Health Monitoring

→ Biological Testing



# About Us

## What you can expect from us

Our global network of experts is ready to support your research testing needs by providing fast, accurate and reliable results–along with expert consultation you can access directly, for even greater insight. IDEXX BioAnalytics delivers comprehensive animal health monitoring, biological materials testing and preclinical services.

At IDEXX BioAnalytics, we offer customized testing solutions, meaningful data, and global expertise in research testing 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
- Our teams have more than 20 years of experience supporting R&D programs in Europe and North America
- Offers integrated, comprehensive and analytical support through a single point of contact in the two biggest regulatory



# Directory of Tests and Services

## Summary of services

### Reliable & reproducible results

- Detailed SOPs, sample & data archives
- VICH GL09 (GCP) capability

### Accelerate research

- Industry-leading expertise in supporting preclinical and veterinary clinical trials
- Comprehensive solutions through in-house testing
- Offering support – including laboratory project management and customised reporting
- Support and 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 the outcome of studies both in 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

### Important note:

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.com**

## How to find a test

### Directory of Tests and Services

This directory contains IDEXX BioAnalytics' three main testing categories: Preclinical, Animal Health Monitoring, and Biological Testing. Each testing category is color-coded and further divided into three sections for easy use:

### Quick Reference

Tests are listed both alphabetically and grouped by disease state or organ system for Preclinical or by species and pathogen type for Animal Health Monitoring and Biological Testing. Important details such as test name, price, and page numbers for further information are included.

### In-Depth Testing Information

These sections feature our most commonly requested tests, panels, and profiles. This includes the test name, test components, specimen requirements, turnaround time, and price.

### Resources

In these sections, you'll find useful information such as result delivery options, how to send in samples, and other submission suggestions.

# Preclinical Services

QUICK JUMP TO

→ Quick Reference

→ In-Depth Testing Information (Listing of Profiles)

→ Resources

PRECLINICAL SERVICES

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**


| | Test code | Page |
|---|---|---|
| **A** | | |
| Acid-Fast Stain for *Mycobacteria* spp. | **6408** | 26 |
| **Adrenal** | | |
| ACTH Stimulation | **119** | 29 |
| Adrenocorticotropic Hormone (ACTH), Endogenous | **808** | 29 |
| Cortisol–Canine and Feline Only | **6800** | 29 |
| Cortisol–NHP, rodents, cattle, FBS accepted | **62231** | 31 |
| Cortisol by RIA | **8000** | 29 |
| Aerobic and Anaerobic Culture (ID Only) | **64017** | 26 |
| Aerobic and Anaerobic Culture (ID and Susceptibility) | **6401** | 26 |
| Aerobic Culture (ID and Susceptibility) | **64006** | 26 |
| Aerobic Culture (ID Only) | **6427** | 26 |
| Alanine Aminotransferase (ALT) | **6225** | 12 |
| Albumin (ALB) | **62006** | 12 |
| Alkaline Phosphatase (ALP) | **6201** | 12 |
| Amylase (AMY) | **6203** | 12 |
| Anatomic Pathology | | 25 |
| Antinuclear Antibody (ANA) by IFA | **6700** | 28 |
| Aspartate Aminotransferase (AST) | **6224** | 12 |
| Automated Nucleated Cell Count | **6335** | 21 |
| **B** | | |
| Betahydroxybutrate (BHB) | **62645** | 12 |
| Bicarbonate | **6209** | 12 |
| Bile Acids, Total | **6258** | 12 |
| Bile Acids Panel (Pre- and Postprandial) | **6257** | 12 |
| **Biopsy** | | |
| Cytology | **6605** | 21 |
| Histology | | 22 |
| Histopathology | | 25 |
| Bilirubin– Total, Conjugated, and Unconjugated | **6204** | 12 |
| Blood Count | **6301** | 17 |
| Blood Culture | **6406** | 26 |
| Blood Urea Nitrogen (BUN) | **6207** | 12 |
| Bone Marrow Cytology | **6607** | 21 |
| Bromide | **839** | 29 |
| **C** | | |
| **C Reactive Protein (CRP)** | | |
| C-Reactive Protein (CRP)–Mouse only | **62485** | 12 |
| C-Reactive Protein (CRP)–NHP only | **62484** | 12 |
| Calcium | **6208** | 12 |
| **Cardiac** | | |
| Cardiopet® proBNP Test–Canine | **62665** | 28 |
| Cardiopet® proBNP Test–Feline | **62666** | 28 |
| Troponin I | **62714** | 31 |
| **CBC** | | |
| CBC, Comprehensive | **61330** | 17 |
| CBC, Comprehensive with Platelet Count | **60604** | 17 |
| CBC, Comprehensive with Retic Hgb | **62216** | 17 |
| CBC, Comprehensive with MPV and RDW | **62649** | 17 |
| Chloride | **6210** | 12 |
| Cholesterol, Total | **6211** | 12 |
| Cholinesterase | **6230** | 29 |
| **Coagulation** | | |
| Antithrombin | **Call** | 31 |
| Antithrombin-Thrombin Complex | **Call** | 31 |
| Coagulation, Mini | **6005** | 20 |
| Coagulation Profile 2 | **6045** | 20 |
| Comprehensive CBC and Coag Profile 2 | **6004** | 20 |
| D-dimer–Non-rodent | **62235** | 31 |
| D-dimer–Rodent | **62236** | 31 |
| Factor V Activity | **62385** | 31 |
| Factor VII Activity | **62380** | 31 |


† Minimum charges may apply.

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**


| | Test code | Page |
|---|---|---|
| Factor VIII Activity | **Call** | 31 |
| Factor X Activity | **62382** | 31 |
| Factor XII Activity | **Call** | 31 |
| Factor XIII Activity | **Call** | 31 |
| Research Custom Panel | **60774** | 20 |
| Research Custom Panel | **60843** | 20 |
| Thrombin | **Call** | 31 |
| von Willebrand Factor (vWF;Ag)–Canine, Feline, Equine | **Call** | 31 |
| von Willebrand Factor (vWF;Ag)–Large animals, Exotics, Rodents | **Call** | 31 |
| Cobalamin (Vitamin B12) and folic acid | **2014** | 29 |
| Comprehensive CBC and Coag Profile 2 | **6004** | 20 |
| Comprehensive Chem and Comprehensive CBC | **61331** | 13 |
| Comprehensive Chemistry | **6006** | 11 |
| Comprehensive Chemistry 2 | **60509** | 11 |
| Cortisol–Canine and Feline Only | **6800** | 29 |
| Cortisol–NHP, rodents, cattle, FBS accepted | **62231** | 31 |
| Cortisol by RIA | **8000** | 29 |
| Creatine Kinase (CK, CPK) | **6212** | 12 |
| Creatinine (CREA) | **6213** | 12 |
| Cryptosporidium Antigen by ELISA—Mammals | **6514** | 28 |
| **Cultures** | | |
| Aerobic and Anaerobic Culture (ID Only) | **64017** | 26 |
| Aerobic and Anaerobic Culture (ID and Susceptibility) | **6401** | 26 |
| Aerobic Culture (ID and Susceptibility) | **64006** | 26 |
| Aerobic Culture, (ID Only) | **6427** | 26 |
| Blood Culture | **6406** | 26 |
| Environmental Culture | **6030** | 26 |
| Fecal Enteric Pathogenic Culture 1 | **64021** | 26 |
| Fecal Enteric Pathogenic Culture 1 with *Campylobacter* spp. | **64022** | 26 |
| Fecal Enteric Pathogenic Culture, *Campylobacter* spp. Only | **64026** | 26 |
| Fecal Enteric Pathogenic Culture with *Campylobacter* spp., *Yersinia* spp. and *Shigella* spp. | **64034** | 27 |
| Fungal Culture (ID Only) | **6405** | 27 |
| *Mycoplasma* spp. Culture | **6411** | 27 |
| Urine Culture & Susceptibility | **6403** | 27 |
| **Cytology** | | |
| Bone Marrow Cytology | **6607** | 21 |
| Cytology | **6605** | 21 |
| Cytology with CSF Fluid Analysis | **6900** | 21 |
| Cytology with Fluid Analysis (except CSF) | **6905** | 21 |
| **Cytokines** | | |
| IL-2 (Human) | **Call** | 21 |
| IL-15 (Human) | **Call** | 21 |
| Mouse 25-Plex Panel | **62579** | 21 |
| Rat 27-Plex Panel | **62831** | 21 |
| Mouse 10-Plex Panel | **63438** | 21 |
| Rat 27-Plex Panel | **63440** | 21 |
| Human 10-Plex Panel | **Call** | 21 |
| Human 15-Plex Panel | **Call** | 21 |
| **D** | | |
| D-dimer–Non-rodent | **62235** | 31 |
| D-dimer–Rodent | **62236** | 31 |
| Diarrhea RealPCR Panel (Comprehensive)–Canine | **2625** | 30 |
| Diarrhea RealPCR Panel (Comprehensive)–Feline | **2627** | 30 |
| **E** | | |
| Environmental Culture | **6030** | 26 |
| **F** | | |
| **Fecal Cultures** | | |
| Fecal Enteric Pathogenic Culture 1 | **64021** | 26 |
| Fecal Enteric Pathogenic Culture 1 with *Campylobacter* spp. | **64022** | 26 |
| Fecal Enteric Pathogenic Culture, *Campylobacter* spp. Only | **64026** | 26 |
| Fecal Enteric Pathogenic Culture with *Campylobacter* spp., *Yersinia* spp. and *Shigella* spp. | **64034** | 27 |
| Fecal Occult Blood | **6907** | 28 |


† Minimum sample quantity required for pricing listed. Minimum charges may apply.

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**


| | Test code | Page |
|---|---|---|
| Fecal Ova and Parasites by Zinc Sulfate Centrifugation | **6501** | 28 |
| Ova and Parasites - NHP | **6501** | 28 |
| Ova and Parasites with Giardia spp. - NHP | **2463** | 28 |
| FeLV Antigen and FIV Antibody by ELISA | **60687** | 28 |
| FeLV Antigen by ELISA | **6709** | 28 |
| FIV Antibody by ELISA | **61039** | 28 |
| Fibrinogen- Clauss method (with mechanical clot detection) | **6308** | 20 |
| Fibrinogen by Heat Precipitation | **6306** | 20 |
| **Fluid Analysis With Cytology** | | |
| Cytology with CSF Fluid Analysis | **6900** | 21 |
| Cytology with Fluid Analysis (except CSF) | **6905** | 21 |
| Fructosamine (FRUC) | **6245** | 12 |
| Fungal Culture | **6405** | 27 |
| **G** | | |
| Gamma-glutamyltransferase (GGT) | **6214** | 12 |
| Giardia Antigen by ELISA–Mammals | **6513** | 28 |
| *Giardia* spp. RealPCR™ Test–Mammals | **2631** | 30 |
| Glucose (GLU) | **6215** | 12 |
| Glutamate Dehydrogenase (GLDH) | **62274** | 12 |
| Gram Stain | **6409** | 27 |
| **H** | | |
| Haptoglobin | **62846** | 12 |
| Hemoglobin, Plasma Free | **62185** | 12 |
| High-Density Lipoprotein Cholesterol (HDL-C) | **6292** | 12 |
| Histochemical stains | | 23 |
| Histology | | 22 |
| Histopathology | | 25 |
| Heartworm Antigen by ELISA –Canine | **6723** | 29 |
| Heartworm Panel–Canine | **6271** | 29 |
| **I** | | |
| IGF-1 | **Call** | 31 |
| Immunoglobulins, Quantitative IgG, IgM, IgA–Canine | **62298** | 31 |
| **Inflammation** | | |
| C-Reactive Protein (CRP)–Canine only | **62332** | 12 |
| C-Reactive Protein (CRP)–Mouse only | **62485** | 12 |
| C-Reactive Protein (CRP)–NHP only | **62484** | 12 |
| Haptoglobin | **62763** | 12 |
| IL-2 (Human) | **Call** | 21 |
| IL-15 (Human) | **Call** | 21 |
| Mouse 25-Plex Panel | **62579** | 21 |
| Rat 27-Plex Panel | **62831** | 21 |
| Mouse 10-Plex Panel | **63438** | 21 |
| Rat 10-Plex Panel | **63440** | 21 |
| Human 10-Plex Panel | **Call** | 21 |
| Human 15-Plex Panel | **Call** | 21 |
| Insulin | **62230** | 31 |
| Insulin by RIA–Canine and Equine only | **6805** | 29 |
| Iron (Fe) | **6962** | 12 |
| Iron Panel | **62229** | 31 |
| **K** | | |
| **Kidney** | | |
| BUN | **6207** | 12 |
| Creatinine | **6213** | 12 |
| Phosphorus | **6221** | 12 |
| Potassium (K) | **6229** | 12 |
| Renal Panel | **60406** | 11 |
| SDMA-Canine, Feline and Rat by Immunoassay | **63638** | 12 |
| **L** | | |
| Lactate Dehydrogenase (LDH) | **6218** | 12 |
| **Lipid** | | |
| Cholesterol, Total | **6211** | 12 |
| HDL Cholesterol | **6292** | 12 |


† Minimum sample quantity required for pricing listing. Minimum charges may apply.

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**


| | Test code | Page |
|---|---|---|
| Lipid Profile, Non-Rodent | **6291** | 11 |
| Lipid Profile, Rodent only | **6290** | 11 |
| LDL Cholesterol, Direct–Rodent only | **62620** | 12 |
| Nonesterified Fatty Acids (NEFA) | **62300** | 12 |
| Triglycerides | **6242** | 12 |
| Low-Density Lipoprotein Cholesterol, Calculated–Non-Rodent‡ | — | |
| Low-Density Lipoprotein Cholesterol, Direct–Rodent only | **62620** | 12 |
| Lipase (LIP) | **6219** | 12 |
| Lipid Profile, Non-Rodent | **6291** | 11 |
| Lipid Profile, Rodent | **6290** | 11 |
| **Liver** | | |
| Alanine Aminotransferase (ALT) | **6225** | 12 |
| Albumin (ALB) | **62006** | 12 |
| Alkaline Phosphatase (ALP) | **6201** | 12 |
| Aspartate Aminotransferase (AST) | **6224** | 12 |
| Bile Acids, Total | **6258** | 12 |
| Bilirubin- Total, Conjugated, and Unconjugated | **6204** | 12 |
| Gamma-glutamyltransferase (GGT) | **6214** | 12 |
| Glutamate Dehydrogenase (GLDH)-Rat only | **62274** | 12 |
| Liver Panel | **60405** | 11 |
| Lyme Quant C6® Antibody by ELISA | **67246** | 29 |
| **M** | | |
| Magnesium | **6220** | 12 |
| Minerals, fixed tissue | **62632** | 31 |
| *Mycoplasma* spp. Culture | **6411** | 27 |
| **N** | | |
| Nonesterified Fatty Acids (NEFA) | **62300** | 12 |
| **P** | | |
| **Pancreas** | | |
| Amylase (AMY) | **6203** | 12 |
| Lipase (LIP) | **6219** | 12 |
| Spec cPL® Test–Canine | **61849** | 29 |
| Spec fPL® Test–Feline | **62493** | 29 |
| Parasite Stain–Trichrome Stain | **6505** | 28 |
| Activated Partial Thromboplastin Time (PTT) | **6312** | 20 |
| Platelet Distribution Width (PDW) and Mean Platelet Volume (MPV) Add-on | **61010** | 18 |
| Phosphorus (PHOS) | **6221** | 12 |
| Plasma Free Hemoglobin | **62185** | 12 |
| Plasma Protein by refractometry | **6314** | 12 |
| **Pathology** | | |
| Histology | | 22 |
| Histopathology | | 25 |
| Diagnostic pathology | | 25 |
| Research pathology | | 25 |
| Toxicologic pathology | | 25 |
| Clinical pathology reports | | 25 |
| **Platelet Count** | | |
| Platelet Count, Automated–Add-On | **60371** | 18 |
| Platelet Count, Manual–Add-On | **63091** | 18 |
| Platelet Count–Automated | **6037** | 18 |
| Platelet Count–Manual | **6027** | 18 |
| Potassium (K) | **6229** | 12 |
| Progesterone by RIA | **68060** | 29 |
| Protein Electrophoresis, Serum | **6223** | 13 |
| Protein Electrophoresis, Urine, CSF | **61367** | 13 |
| Prothrombin Time (PT) | **6311** | 20 |
| **R** | | |
| Renal Panel | **60406** | 11 |
| Respiratory Disease (CRD) RealPCR Panel (Comprehensive)–Canine | **2524** | 30 |
| Reticulocyte Count, Add-On | **6313** | 18 |
| Reticulocyte Count and RBC | **60828** | 18 |


† Minimum sample quantity required for pricing listing. Minimum charges may apply.
‡ LDL calculated must be ordered as part of a panel including HDL cholesterol, cholesterol, and triglycerides.

PRECLINICAL SERVICES

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**


| | Test code | Page |
|---|---|---|
| Rodent Expanded Tox Panel | **60514** | 11 |
| **S** | | |
| **SDMA** | | |
| SDMA-Canine, Feline and Rat by Immunoassay | **63638** | 12 |
| Short Tox Panel | **60513** | 11 |
| Sodium (Na) | **6231** | 12 |
| Sorbitol Dehydrogenase (SDH) | **6227** | 12 |
| Spec cPL® Test–Canine | **61849** | 29 |
| Spec fPL® Test–Feline | **62493** | 29 |
| Standard Tox Panel | **62794** | 11 |
| **T** | | |
| Tacrolimus | **Call** | 31 |
| Testosterone by RIA | **62233** | 31 |
| **Thyroid** | | |
| T3, Total by RIA (Canine, feline and equine only) | **6803** | 29 |
| T3 | **62232** | 31 |
| T4, Free by Equilibrium Dialysis | **6849** | 29 |
| T4, Total | **6804** | 12 |
| T4, Total by RIA | **6814** | 29 |
| Tick/Vector Comprehensive RealPCR Panel–Canine | **2870** | 30 |
| Total Protein | **6222** | 12 |
| Tox Panel with LDH | **60888** | 11 |
| **Toxicology Profiles** | | |
| Rodent Expanded Tox Panel | **60514** | 11 |
| Short Tox Panel | **60513** | 11 |
| Standard Tox Panel | **62794** | 11 |
| Tox Panel with LDH | **60888** | 11 |
| Trichrome Stain | **6505** | 28 |
| Triglycerides (TRIG) | **6242** | 12 |
| Troponin I | **62714** | 31 |
| TSH, Endogenous–Canine Only | **6853** | 29 |
| **U** | | |
| Uric Acid | **6228** | 14 |
| Urinalysis, Complete | **6910** | 14 |
| Urinalysis, Complete with UPCR | **62369** | 14 |
| Urinalysis without Microscopic Exam | **69109** | 14 |
| Urine Calcium | **6967** | 14 |
| Urine Chloride | **6970** | 14 |
| Urine Creatinine | **6993** | 14 |
| Urine Culture & Susceptibility | **6403** | 27 |
| Urine Glucose | **60853** | 14 |
| Urine Magnesium | **6244** | 14 |
| Urine Phosphate/Serum Phosphate Ratio | **6991** | 14 |
| Urine Phosphorus | **6968** | 14 |
| Urine Potassium | **6966** | 14 |
| Urine Protein | **6992** | 14 |
| Urine Protein/Creatinine Ratio | **6994** | 14 |
| Urine Sodium | **6965** | 14 |
| Urine Urea Nitrogen | **6969** | 14 |
| Urine Uric Acid | **6944** | 14 |
| Urine Uric Acid/Creatinine Ratio | **6998** | 14 |
| Urobilinogen | **6942** | 14 |
| **W** | | |
| WBC Count, Automated with Differential | **61332** | 17 |


† Minimum sample quantity required for pricing listing. Minimum charges may apply.

# Clinical Chemistry

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Standard Panels

| Test code | 60514 | 62794 | 60888 | 60513 | 60405 | 60406 |
|---|---|---|---|---|---|---|
| **Serum Volume Requirement** | **240 µL** | **140 µL** | **110 µL** | **120 µL** | **130 µL** | **120 µL** |
| Alanine Aminotransferase (ALT) | ● | ● | ● | ● | ● | |
| Albumin (ALB) | ● | ● | ● | | ● | ● |
| Albumin:Globulin Ratio | | | | | | |
| Alkaline Phosphatase (ALP) | ● | ● | ● | ● | ● | |
| Amylase (AMY) | | | | | | |
| Aspartate Aminotransferase (AST) | ● | ● | ● | ● | ● | |
| Bicarbonate | | | | | | |
| Bile Acids, Total | ● | | | ● | | |
| Bilirubin, Conjugated | ● | | ● | | ● | |
| Bilirubin, Unconjugated | | | ● | | ● | |
| 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) | ● | | | | | |
| Lactate Dehydrogenase (LDH) | | | ● | | | |
| Lipase (LIP) | | | | | | |
| LDL Cholesterol (LDL-C)† | ● | | | | | |
| Phosphorous (PHOS) | ● | | | | | ● |
| Potassium (K) | ● | | | | | ● |
| Sodium (Na) | ● | | | | | ● |
| Sodium:Potassium Ratio | | | | | | |
| Total Protein (TP) | ● | ● | ● | | ● | ● |
| Triglycerides (TRIG) | ● | | | | | |
| Uric Acid | | | | | | |

| Test code | 6006 | 60509 | 6290 | 6291 |
|---|---|---|---|---|
| **Serum Volume Requirement** | **200 µL** | **270 µL** | **60 µL** | **50 µL** |
| Alanine Aminotransferase (ALT) | ● | ● | | |
| Albumin (ALB) | ● | ● | | |
| Albumin:Globulin Ratio | ● | | | |
| Alkaline Phosphatase (ALP) | ● | ● | | |
| Amylase (AMY) | | ● | | |
| Aspartate Aminotransferase (AST) | ● | ● | | |
| Bicarbonate | ● | ● | | |
| Bile Acids, Total | | | | |
| Bilirubin, Conjugated | ● | ● | | |
| Bilirubin, Unconjugated | ● | ● | | |
| 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) | | | ● | ● |
| Lactate Dehydrogenase (LDH) | | ● | | |
| Lipase (LIP) | | ● | | |
| LDL Cholesterol (LDL-C)† | | | ● | ● |
| Phosphorous (PHOS) | ● | ● | | |
| Potassium (K) | ● | ● | | |
| Sodium (Na) | ● | ● | | |
| Sodium: Potassium Ratio | ● | | | |
| Total Protein (TP) | ● | ● | | |
| Triglycerides (TRIG) | | ● | ● | ● |
| Uric Acid | | ● | | |

†LDL Cholesterol is calculated for species other than rat or mouse.

# Clinical Chemistry

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Individual Tests

*Please note that volumes listed are for single analyte testing, if multiple analytes are needed, volumes will be reduced. Information on custom chemistry panels is available on page 14. Unless otherwise stated, the following tests can be performed on the common laboratory species.*

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Alanine Aminotransferase (ALT/SGPT)** | 40 µL serum | 1–3 days | **6225** |
| **Albumin (ALB)** | 40 µL serum | 1–3 days | **62006** |
| **Alkaline Phosphatase (ALP)** | 40 µL serum | 1–3 days | **6201** |
| **Amylase (AMY)** | 40 µL serum | 1–3 days | **6203** |
| **Aspartate Aminotransferase (AST/SGOT)** | 40 µL serum | 1–3 days | **6224** |
| **Betahydroxybutrate (BHB)** | 40 µL serum | 1–3 days | **62645** |
| **Bicarbonate** | 40 µL serum | 1–3 days | **6209** |
| **Bile Acids Panel** (Pre- and Postprandial)<br>*Please clearly label pre and post samples* | 40 µL serum, each | 1–3 days | **6257** |
| **Bile Acids, Total** | 40 µL serum | 1–3 days | **6258** |
| **Bilirubin–Total, Conjugated, Unconjugated** | 55 µL serum | 1–3 days | **6204** |
| **Blood Urea Nitrogen (BUN)** | 40 µL serum | 1–3 days | **6207** |
| **C-Reactive Protein (CRP)**–Mouse only | 40 µL serum | 7–10 days | **62485** |
| **C-Reactive Protein (CRP)**–NHP only | 100 µL serum | 7–10 days | **62484** |
| **Calcium (Ca)** | 40 µL serum | 1–3 days | **6208** |
| **Chloride (Cl)** | 50 µL serum | 1–3 days | **6210** |
| **Cholesterol, Total** | 40 µL serum | 1–3 days | **6211** |
| **Creatine Kinase (CK, CPK)** | 45 µL serum | 1–3 days | **6212** |
| **Creatinine (CREA)** | 55 µL serum | 1–3 days | **6213** |
| **Fructosamine (FRUC)** | 40 µL serum | 1–3 days | **6245** |
| **Gamma-glutamyltransferase (GGT)** | 50 µL serum | 1–3 days | **6214** |
| **Glucose (GLU)** | 40 µL serum | 1–3 days | **6215** |
| **Glutamate dehydrogenase (GLDH)**–Rat only | 60 µL serum | 1–3 days | **62274** |
| **Haptoglobin** | 40 µL serum | 1–3 days | **62846** |

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **High-Density Lipoprotein Cholesterol (HDL-C)** | 40 µL serum | 1–2 days | **6292** |
| **Iron (Fe)** | 35 µL serum | 1–3 days | **6962** |
| **Lactate Dehydrogenase (LDH)** | 40 µL serum | 1–3 days | **6218** |
| **Lipase (LIP)** | 40 µL serum | 1–3 days | **6219** |
| **Low-Density Lipoprotein Cholesterol (LDL-C)**<br>Direct–Rodent only‡ | 45 µL serum | 1–3 days | **62620** |
| **Magnesium (Mg)** | 40 µL serum | 1–3 days | **6220** |
| **Nonesterified Fatty Acids (NEFA)** | 40 µL serum | 1–3 days | **62300** |
| **Phosphorus (PHOS)** | 40 µL serum | 1–3 days | **6221** |
| **Potassium (K)** | 50 µL serum | 1–3 days | **6229** |
| **Plasma Free Hemoglobin** | 40 µL serum | 1–3 days | **62185** |
| **Plasma Protein by refractometry** | 500 µL EDTA whole blood | 1–3 days | **6314** |
| **SDMA, by Immunoassay**–Dog, cat, rat | 80 µL serum | 1–3 days | **63638** |
| **Sodium (Na)** | 50 µL serum | 1–3 days | **6231** |
| **Sorbitol Dehydrogenase (SDH)** | 50 µL serum | 1–3 days | **6227** |
| **Total Protein (TP)** | 40 µL serum | 1–3 days | **6222** |
| **Total T4** | 50 µL serum | 1–3 days | **6804** |
| **Triglycerides (TRIG)** | 40 µL serum | 1–3 days | **6242** |
| **Uric acid** | 60 µL serum | 1–3 days | **6228** |

† Minimum sample quantity required for pricing listing. Minimum charges may apply.
‡ LDL Cholesterol is calculated for species other than rat or mouse.

# Clinical Chemistry

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Protein Electrophoresis

- Protein Electrophoresis is a well-established technique routinely used in clinical laboratories for screening serum, plasma, and urine for protein abnormalities. It is based on the principle of zone electrophoresis performed on suitable serum and other fluids for protein abnormalities. Proteins are separated into fractions, primarily based on their charges at a given pH.
- Fresh serum, plasma, urine, and other body fluid samples are recommended for analysis. Refrigerated samples are stable up to one week. Frozen samples are acceptable for up to one month.

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Protein Electrophoresis, Serum** | 150 µL serum | 5–10 days | **6223** |
| **Protein Electrophoresis, Urine, CSF** | 150 µL fluid | 5–10 days | **61367** |

## Hematology and Chemistry Profiles Combined

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Comprehensive Chemistry and Comprehensive CBC** | 200 µL serum, 150 µL EDTA WB | 1–3 days | **61331** |

## Custom Chemistry

With IDEXX BioAnalytics, you have the ability to create your own chemistry panel for no additional cost. 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.

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

| |
|---|
| **Custom Serum Chemistry 2–10 routine tests** |
| **Expanded Custom Chemistry 11+ routine tests** |
| **Premium Custom Chemistry‡** |
| **Urine Chemistries** |

### Routine Analytes Available

| | | |
|---|---|---|
| **Albumin (ALB)** | **Blood Urea Nitrogen (BUN)** | **Lactate Dehydrogenase (LDH)** |
| **Alkaline Phosphatase (ALP)** | **BUN:Creatinine Ratio** | **Lipase (LIP)** |
| **Alanine Aminotransferase (ALT)** | **Calcium (Ca)** | **Phosphorus (PHOS)** |
| **Amylase (AMY)** | **Chloride (Cl)** | **Potassium (K)** |
| **Anion Gap** | **Cholesterol (CHOL)** | **SDMA†** |
| **Aspartate Aminotransferase (AST)** | **Creatine Kinase (CK, CPK)** | **Sodium (Na)** |
| **Bicarbonate** | **Creatinine (CREA)** | **Total Protein (TP)** |
| **Bilirubin, Conjugated** | **Globulin (GLOB)** | **Triglycerides (TRIG)** |
| **Bilirubin, Total** | **Glucose (GLU)** | **Uric Acid** |
| **Bilirubin, Unconjugated** | **Gamma-glutamyltransferase (GGT)** | |

### Premium Analytes Available

| | | |
|---|---|---|
| **Bile Acids** | **Magnesium** | **HDL Cholesterol (HDL-C)** |
| **LDL Cholesterol (LDL-C)** | **SDH** | **GLDH** |

† SDMA for Immunoassay validated species only.
‡ Additional tests can be incorporated into the premium custom chemistry panels; pricing will vary.

# Clinical Chemistry

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Urinalysis Panels and Profiles

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

| | Urinalysis, Complete | Urinalysis without Microscopic Exam | Research Custom Profile- UA with UPCR 62369 |
|---|---|---|---|
| **Test code** | **6910** | **69109** | **62369** |
| **Urine volume requirement** | **550 µL** | **500 µL** | **800 µL** |
| Volume | ● | ● | ● |
| Color | ● | ● | ● |
| Clarity | ● | ● | ● |
| Specific gravity§ | ● | ● | ● |
| pH† | ● | ● | ● |
| Protein† | ● | ● | ● |
| Glucose† | ● | ● | ● |
| Ketones† | ● | ● | ● |
| Urobilinogen† | ● | ● | ● |
| Bilirubin† | ● | ● | ● |
| Blood (Heme)† | ● | ● | ● |
| WBC‡ | ● | | ● |
| RBC‡ | ● | | ● |
| Bacteria‡ | ● | | ● |
| EPI cell‡ | ● | | ● |
| Mucus‡ | ● | | ● |
| Casts‡ | ● | | ● |
| Crystals‡ | ● | | ● |
| Urine creatinine | | | ● |
| Urine protein | | | ● |
| Urine protein/creatinine | | | ● |

## Urine Chemistry Individual Tests

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Calcium (Ca)** | 40 µL urine | 1–3 days | **6967** |
| **Chloride (Cl)** | 50 µL urine | 1–3 days | **6970** |
| **Creatinine (CREA)** | 40 µL urine | 1–3 days | **6993** |
| **Glucose (GLU)** | 40 µL urine | 1–3 days | **60853** |
| **Magnesium (Mg)** | 40 µL urine | 1–3 days | **6244** |
| **Total Protein (TP)** | 40 µL urine | 1–3 days | **6992** |
| **Phosphorus (PHOS)** | 50 µL urine | 1–3 days | **6968** |
| **Potassium (K)** | 50 µL urine | 1–3 days | **6966** |
| **Sodium (Na)** | 50 µL urine | 1–3 days | **6965** |
| **Urea Nitrogen** | 50 µL urine | 1–3 days | **6969** |
| **Uric Acid** | 40 µL urine | 1–3 days | **6944** |
| **Urobilinogen** | 50 µL urine | 1–3 days | **6942** |

## Standard Urine Panels

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Urine Protein:Creatinine Ratio** | 250 µL urine | 1–3 days | **6994** |
| **Uric Acid:Creatinine Ratio** | 250 µL urine | 1–3 days | **6998** |
| **Urine Phosphate:Serum Phosphate Ratio** | 270 µL urine and 80 µL serum | 1–3 days | **6991** |

† Testing performed by reagent dipsticks and reported semi-quantitative. Positive protein is verified using 3% sulfosalicylic acid (SSA) protein precipitation test. Positive bilirubin results are confirmed by Ictotest.
‡ Microscopic examination performed using an inverted phase scope.
§ Specific gravity is measured via refractometer.

# Clinical Chemistry

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## 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: Serum separator tube (SST)–red cap with yellow ring or gold top mini. Tubes contain clot activator and gel to separate clot from serum during centrifugation. Non-additive tubes can also be used for collection.
- Sample handling: Gently invert tube 8 to 10 times after collection. Let specimen clot for approximately 20 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 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 SST tubes.
- Sample shipping: Ship samples on cold packs or dry ice.

### 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

- Ideal specimen: Urine
- Tube type: Non-additive tube, white cap tube with a black ring or plain, silicone-coated plastic tube.
- Sample storage: Refrigerate (2–8°C) samples. Optimal results are obtained on refrigerated samples less than 48 hours old.
- Sample shipping: Ship on cold packs but do not freeze as this may damage cells.

### Urine—for biochemistry analysis

- Ideal specimen: Urine
- Tube type: Non-additive tube–white cap with a black ring or plain, silicone-coated plastic 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.

### 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 below for acceptable sample types.
- Centrifuged fluids can also be analyzed.
- Do not use serum separator tubes for certain endocrine and specialized testing including progesterone, and therapeutic drug monitoring (e.g., phenobarbital). Use RRT with clot activator instead.

### Specimen Quality

Grossly hemolyzed samples may be analyzed; however, results should be reviewed carefully for possible interference effects. Moderate to grossly lipemic samples are ultra-centrifuged before analysis, except for specimens that have triglyceride requested.

# Clinical Chemistry

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## 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 analysis. 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. All chemistry assays were validated for serum matrix as well as urine for applicable analytes, and additional samples types may be accepted as indicated in the chart below. 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.

| Test - Unit | Method | Specimen Type |
|---|---|---|
| ALT (U/L) | Enzymatic, kinetic | Serum†/EDTA plasma/LH plasma |
| Albumin (g/dl) | Bromocresol Green (BCG) | Serum†/EDTA plasma/LH plasma |
| Alb/Glob Ratio | Calculation | Serum†/LH plasma |
| ALP (U/L) | Enzymatic, kinetic | Serum†/LH plasma |
| Amylase (U/L) | Chromogenic substrate ($CNPG_3$) | Serum†/LH plasma |
| AST (U/L) | Enzymatic, kinetic | Serum†/LH plasma |
| BHB(mg/dl) | BHB dehydrogenase/INT | Serum†/EDTA plasma/LH plasma |
| Bicarbonate (mmol/L) | Enzymatic, endpoint | Serum†/LH plasma |
| Bile acids (µmol/L) | Enzymatic, kinetic | Serum†/EDTA plasma/LH plasma |
| Bilirubin, Total (mg/dl) | Diazo reaction, endpoint | Serum†/LH plasma |
| Bilirubin, Conjugated (mg/dl) | Nonenzymatic, endpoint | Serum†/LH plasma |
| Bilirubin, Unconjugated (mg/dl) | Calculation | Serum†/LH plasma |
| BUN (mg/dl) | Enzymatic, kinetic | Serum†/Urine†/EDTA plasma/LH plasma |
| BUN/Creat Ratio | Calculation | Serum†/LH plasma |
| C-Reactive Protein—Canine (mg/L) | Immunoturbidimetric | Serum† |
| Calcium (mg/dl) | Non-enzymatic (Arsenazo III), endpoint | Serum†/Urine†/LH plasma |
| Cholesterol (mg/dl) | Enzymatic (Cholesterol Esterase/Oxidase), endpoint | Serum†/EDTA plasma/LH plasma |
| Creatine kinase (U/L) | Enzymatic, kinetic | Serum†/LH plasma‡ |
| Creatinine (mg/dl) | 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 |
| Globulin | Calculation | Serum† |
| Glucose (mg/dl) | Enzymatic (Hexokinase/G-6-PDH), endpoint | Serum†/Urine†/CSF/EDTA plasma/LH plasma |
| GLDH (U/L) | Enzymatic, kinetic | Serum† |
| Haptoglobin (mg/mL) | Peroxidase activity | Serum†/LH plasma |
| HDL cholesterol (mg/dl) | Direct homogenous assay | Serum†/EDTA plasma/LH plasma |
| IRON (mg/dl) | Non-enzymatic (TPTZ), endpoint | Serum†/LH plasma |
| LDH (U/L) | Enzymatic, kinetic | Serum†/LH plasma |
| LDL cholesterol (mg/dl)–Rodent | Direct homogenous assay | Serum†/EDTA plasma/LH plasma |
| LDL cholesterol (mg/dl)–Nonrodent | Calculation | Serum†/EDTA plasma/LH plasma |
| Lipase (U/L) | Enzymatic (1,2-diglyceride), kinetic | Serum†/EDTA plasma/LH plasma |
| Magnesium (mg/dl) | 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 |
| NEFA(mEq/L) | Enzymatic | Serum† |
| Phosphorus (mg/dl) | Non-enzymatic, endpoint | Serum†/Urine†/LH plasma |
| Plasma Free (mg/dl) | Peroxidase activity | Serum†/EDTA plasma/LH plasma |
| Total protein (g/dl) | Biuret | Serum†/LH plasma‡ |
| TT4 (µg/dl) | Enzymatic immunoassay | Serum†/EDTA plasma/LH plasma |
| Triglycerides (mg/dl) | Enzymatic, endpoint | Serum†/EDTA plasma/LH plasma |
| SDH (U/L) | Enzymatic, kinetic | Serum†/LH plasma |
| SDMA (ug/dL) | Enzymatic immunoassay | Serum† |
| Uric acid (mg/dl) | Enzymatic, endpoint | Serum†/Urine†/LH plasma |
| Urine bile acid (µmol/L) | Enzymatic, kinetic | Urine† |
| Urine/CSF protein (mg/dl) | Pyrogallol Red | Urine†/CSF |

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

Reference intervals available for most tests for dogs, cats, and horses. Please contact us for more species.

# Hematology

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

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

**Available components for IDEXX BioAnalytics CBC panels:**

### Erythrogram

- Red Blood Cells (RBC)
- Hematocrit (HCT)
- Total Hemoglobin (HGB)
- Mean Corpuscular Volume (MCV)
- Mean Corpuscular Hemoglobin Concentration (MCHC)
- Mean Corpuscular Hemoglobin (MCH)
- Red Blood Cell Distribution Width (RDW)

### WBC differential

- White Blood Cells (WBC)
- Neutrophils (% and absolute)
- Band (% and absolute)
- Lymphocytes (% and absolute)
- Monocytes (% and absolute)
- Eosinophils (% and absolute)
- Basophils (% and absolute)

### Platelets

- Platelet Count
- Platelet Estimate
- Platelet Distribution Width (PDW)
- Mean Platelet Volume (MPV)

### Reticulocytes

- Reticulocyte Count (% and absolute)
- Reticulocyte Hemoglobin Content

### Microscopic evaluation of blood smear

- Provide WBC and RBC morphology
- Atypical cells and infectious agents will be noted

Custom hematology codes can be created for your research needs.
Please contact us to discuss testing and pricing options.

## CBC Panels

| | WBC Count, Automated with Differential | Blood Count | CBC with Platelet Count | Comprehensive CBC | Comprehensive CBC with Retic Hgb | Comprehensive CBC with MPV and RDW |
|---|---|---|---|---|---|---|
| **Test code** | **61332** | **6301** | **60604** | **61330** | **62216** | **62649** |
| **Recommended volume - EDTA whole blood (LTT)** | **150 µL** | **150 µL** | **150 µL** | **150 µL** | **150 µL** | **150 µL** |
| WBC | ● | ● | ● | ● | ● | ● |
| RBC | | ● | ● | ● | ● | ● |
| HGB | | ● | ● | ● | ● | ● |
| HCT | | ● | ● | ● | ● | ● |
| MCV | | ● | ● | ● | ● | ● |
| MCH | | ● | ● | ● | ● | ● |
| MCHC | | ● | ● | ● | ● | ● |
| WBC Differential | ● | | ● | ● | ● | ● |
| Blood Film Evaluation | | | ● | ● | ● | ● |
| Platelet Count† | | | ● | ● | ● | ● |
| Platelet Estimate | ● | | ● | ● | ● | ● |
| Reticulocyte Count | | | | ● | ● | ● |
| MPV and RDW | | | | | | ● |
| Reticulocyte Hemoglobin Content | | | | | ● | |

† If obtainable

# Hematology

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Add-ons for Standard Hematology

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Reticulocyte Count Add-on,** Automated Mouse, Rat, Primate, Canine, Feline, Bovine, Porcine | No additional sample volume required | 1–3 days | **6313** |
| **Platelet Count Add-on,** Automated Mouse, Rat, Primate, Canine, Feline, Ovine, Bovine, Lagomorph, Porcine, Equine | No additional sample volume required | 1–3 days | **60371** |
| **Platelet Count Add-on,** Manual–All Species | No additional sample volume required | 1–3 days | **63091** |
| **Platelet Distribution Width (PDW) and Mean Platelet Volume (MPV) Add-on** | No additional sample volume require | 1–3 days | **61010** |

## Hematology and Chemistry Profiles (Combined)

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Comprehensive Chemistry and Comprehensive CBC** | 200 µL serum, 150 µL LTT | 1–3 days | **61331** |

## Individual Tests

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Platelet Count,** Automated–Canine, Feline, Ovine, Bovine, Lagomorph, Rat, Equine, Mouse, Porcine, Primate | 150 µL LTT | 1–3 days | **6037** |
| **Platelet Count,** Manual–All Species | 100 µL LTT | 1–3 days | **6027** |
| **Plasma Protein by refractometry** | 500 µL LTT | 1–3 days | **6314** |
| **Reticulocyte Count and RBC,** Automated Mouse, Rat, Primate, Canine, Feline, Bovine, Porcine | 150 µL LTT | 1–3 days | **60828** |

# Hematology

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Additional Hematology Sample Information

### Whole Blood

### Sample Type for Complete blood count (CBC)

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 whole blood in a lavender top tube (LTT) tube filled to the recommended level (Proper blood to anticoagulant ratio is important for accurate results).
- Also accepted: Heparin-anticoagulated whole blood in a green top tube (GNTT) or sodium citrated whole blood in a light blue top tube (BTT).
- Tube type: Lavender top EDTA tube (LTT).
- 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 LTT 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 72 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 72 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.

### Other sample notes

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 erythocyte lysis.
- Avoid high negative pressure in the syringe, as this can cause erythrocytes to rupture.
- Do not squirt blood forcefuly through the syringe into the tube. Instead apply gentle pressure and allow the blood to run down the side of the tube wall.

### 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 XT-V for routine hematology testing. The SYSMEX XT-V 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.

Our Sysmex instruments are validated for mouse, rat, NHP, canine, feline, equine, bovine, porcine samples. We have also partially validated some other species; specifically, they are not validated for automated differentials on rabbit, llama/alpaca, or caprine samples. Nor are they validated for platelet counts on llama/alpaca or caprine or retic work on rabbits, ovine, llama/alpaca, or caprine. IDEXX BioAnalytics can still provide these services through manual methods.

| Parameter | 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 XT-V 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 Neutrophils, Bands, Lymphocytes, Monocytes, Eosinophils, Basophils, Metamyelocyte, Myelocyte, Promyelocyte, and Unclassified.
- The SYSMEX XT-V 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.
- Each CBC also includes a manual smear review by a trained technician. This smear review is to identify possible abnormalities not detectable by instruments.
- Please contact us for methods used for manually performed tests.

# Coagulation

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Standard Panels

| | Coagulation Profile 2 | Coagulation Mini | Research Custom Panel 60774 | Research Custom Panel 60843 |
|---|---|---|---|---|
| **Test code** | **6045** | **6005** | **60774** | **60843** |
| **Volume** | **260 µL citrated plasma** | **210 µL citrated plasma** | **150 µL EDTA whole blood for platelet count and 210 µL citrated plasma for coagulation tests** | **150 µL EDTA whole blood for platelet count and 210 µL citrated plasma for coagulation tests** |
| Prothrombin Time (PT) | • | • | • | • |
| Activated Partial Thromboplastin Time (PTT) | • | • | • | • |
| Fibrinogen–Clauss method (with mechanical clot detection) | • | | • | |
| Platelet Count, Automated | | | • | • |

### Coagulation Individual Tests

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Prothrombin Time (PT)** | 160 µL citrated plasma | 1–3 days | **6311** |
| **Partial Thromboplastin Time (PTT)** | 160 µL citrated plasma | 1–3 days | **6312** |
| **Fibrinogen–Clauss method (with mechanical clot detection)** | 160 µL citrated plasma | 1–3 days | **6308** |
| **Fibrinogen by Heat Precipitation** | 1 mL citrated (BTT) or EDTA whole blood (LTT) | 1–3 days | **6306** |

### Hematology and Coagulation Profiles (Combined)

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Comprehensive CBC and Coag Profile 2** | 260 µL citrated plasma and `150 µL EDTA whole blood | 1–3 days | **6004** |

IDEXX BioAnalytics also offers D-Dimer, FDP, and Factor testing through send-out laboratories.

### Additional Coagulation 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: Light blue top tube (LTT), sodium citrate anticoagulant (3.2%) then non-additive tube for storage and shipment
- Sample handling: Fill tube to appropriate volume (proper 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 rcf 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 samples ID, collection date and "citrated plasma". Plasma cannot be transferred to another blue-top tube; the specimen will be over-diluted with sodium citrate anticoagulant.
- Sample storage: Freeze at -20°C
- Sample shipping: Ship samples on cold packs or dry ice.

#### Other sample notes

- Sodium citrate plasma (free of tissue fluids) is required for analysis of PT, PTT, and fibrinogen by Clauss method. Sodium oxalate, EDTA, and heparin **are not** suitable anticoagulants for testing and **are not accepted**.
- EDTA whole blood or citrated whole blood is required for fibrinogen by heat precipitation. For small animals, fibrinogen by Clauss method is recommended and is more accurate for low levels of fibrinogen. Fibrinogen by heat precipitation is more commonly utilized for large animal species.
- **The ratio of anticoagulant to blood is important**. Increased or decreased volumes of anticoagulant may cause erroneous test results. Proper ratio is 1 part 3.2% sodium citrate: 9 parts whole blood when collecting.
- 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.

# Cytology and Fluid Analysis

| Test name and components | Test code |
|---|---|
| **Cytology**<br>Microscopic examination of samples submitted on glass slide(s). | **6605** |
| **Cytology with Fluid Analysis (except CSF)**<br>Service includes microscopic description and interpretation, as well as total protein and automated total nucleated cell count. | **6905** |
| **Cytology with CSF Fluid Analysis**<br>Service includes microscopic description and interpretation, as well as hemacytometer RBC, WBC count and microprotein measurements. | **6900** |
| **Bone Marrow Cytology**<br>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 comprehensive CBC. Samples required include LTT for comprehensive CBC and 4–10 dry (unfixed, unstained) bone marrow smears. For study submissions, inclusion of a detailed study protocol is strongly recommended. | **6607** |
| **Automated Nucleated Cell Count** | **6335** |

## Additional Cytology Specimen Information

- 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.
- 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.

# Cytokines

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Mouse 25-Plex Panel**†<br>IL-1α, IL-1β, IL-2, IL-4, IL-5, IL-6, IL-7, IL-9, IL-10, IL-12(p70), IL12(p40), IL-13, IL-15, IL-17, G-CSF, GM-CSF, IFN-γ, IP-10, KC, MCP-1, MIP-1α, MIP-1β, MIP-2, RANTES, TNFα | 35 µL serum, EDTA plasma, cell culture supernatant | 10 days | **62579** |
| **Mouse 10-Plex Panel**†<br>IL-1α, IL-1β, IL-2, IL-6, TNFα, GM-CSF, IL-12(p70), IFN-γ, IL-4, IL-10 | 35 µL serum, EDTA plasma, cell culture supernatant | 10 days | **63438** |
| **Rat 27-plex Panel**†<br>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, Ecotxin/CCL 11, Fractalkine, G-CSF, GM-CSF, GRO/KC, IFN-γ, IP-10, Leptin, LIX, MCP-1, MIP-1α, MIP-2, RANTES, TNFα, VEGF | 35 µL serum, EDTA plasma, cell culture supernatant | 10 days | **62831** |
| **Rat 10-plex Panel**†<br>IL-1α, IL-1β, IL-2, IL-4, IL-6, IL-10, IL-12(p70), GM-CSF, IFN-γ, TNFα | 35 µL serum, EDTA plasma, cell culture supernatant | 10 days | **63440** |
| **Human 15-plex Panel**†<br>IL-1β, IL-2, IL-4, IL-5, IL-6, IL-8, IL-10, IL-12(p40), IL-12(p70), IL-13, IL-17, GM-CSF, IFN-γ, MCP-1, TNFα | 35 µL serum, EDTA plasma, cell culture supernatant | 10 days | **Call** |
| **Human 10-plex Panel**†<br>IL-1β, IL-2, IL-4, IL-6, IL-8, IL-10, IL-12(p70), GM-CSF, IFN-γ, TNFα | 35 µL serum, EDTA plasma, cell culture supernatant | 10 days | **Call** |
| **IL-2 (Human)**† | 50 µL serum, Plasma | 10 days | **Call** |
| **IL-15 (Human)**† | 100 µL serum, Plasma | 10 days | **Call** |

† Minimum sample quantity required for pricing listed. Minimum charges may apply.

# Cytokine 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 following 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 of the analytes in the multiplex panel has been qualified as follows in this chart below

## Mouse Analytes

| 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-17 | 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 | IFNγ | 3.2-10,000 | | |

## Human Analytes

| 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 | IL-12(p40) | 160.0-100,000 | IFN-y | 32.0-20,000 |
| IL-5 | 4.0-10,000 | IL-12(p70) | 16.0-50,000 | MCP-1 | 16.0-50,000 |
| IL-6 | 4.0-10,000 | IL-13 | 32.0-10,000 | TNFα | 32.0-10,000 |

## Rat Analytes

| 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 | TN Fα | 9.8-10,000 |
| IL-13 | 19.5-20,000, | IF Nγ | 234.4-60,000 | VE GF | 19.5-20,000 |

## Cytokine Specimen Collection

- Ideal specimen: Serum
- Also accepted: EDTA Plasma, Cell culture supernatant, inquire as to additional sample types
- Collection tube type: Serum separator tube (STT), red top tube (RTT), 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. If plasma is being collected, centrifuge within 30 minutes of collection at 1Kg for 10 minutes. Remove plasma from cells immediately and transfer to a non-additive tube
- Sample storage: </= -20°C, -80°C preferred. Minimize time between collection and storage (below 1 hour). It is recommended using storage tubes that are compatible with dry ice. Freeze/thaw cycles must be avoided.
- Sample shipping: Frozen, on dry ice to be shipped overnight
- Volume Required: 35µL
- Turnaround time: 10 days
- Please provide notification of incoming samples to IDEXXBioAnalytics@idexx.com at least 10 days in advance.

† Minimum sample quantity required for pricing listed. Minimum charges may apply.

# Cytokines

## Cytokine Specimen Collection

- Ideal specimen: Serum
- Also accepted: EDTA Plasma, Cell culture supernatant, inquire as to additional sample types
- Collection tube type: Serum separator tube (STT), red top tube (RTT), 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. If plasma is being collected, centrifuge within 30 minutes of collection at 1Kg for 10 minutes. Remove plasma from cells immediately and transfer to a non-additive tube
- Sample storage: </= -20°C, -80°C preferred. Minimize time between collection and storage (below 1 hour). It is recommended using storage tubes that are compatible with dry ice. Freeze/thaw cycles must be avoided.
- Sample shipping: Frozen, on dry ice to be shipped overnight
  Volume Required: 35µL
- Turnaround time: 10 days
- Please provide notification of incoming samples to IDEXXBioAnalytics@idexx.com at least 10 days in advance.

**Other sample notes**

- For plasma samples, use EDTA anticoagulant for best results.
- Try to minimize the time between collection and storage (below 1 hour). When collecting plasma, keep whole blood at 4°C until processing.
- Samples must be non-hemolyzed and non-lipemic.
- Avoid freeze/thaw cycles.

# Histology

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. Our flexible services include: • Small animal dissection • Organ/tissue trimming • Routine paraffin embedding • Special embedding using agarose gel (organoids, cell suspensions, small tissues, special orientation) • Frozen sectioning • Preparation of unstained slides only • Routine Hematoxylin & Eosin staining • Special staining • Recut step or serial sections (unstained, H&E or special stained) and • Decalcification.

| 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** |
| **Special Stained Slide** (see special stains list) |

| Tissue Submitted in Paraffin Blocks |
|---|
| **Recut Serial Section and / or Step Sections/Level** (billed per slide) |
| Unstained Sections |
| Hematoxylin and Eosin (H&E) Stained Sections |
| **Special stained slide** (see special stains list) |

# Histology

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## 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**

## Other Services

**Processing of Light-Sensitive Frozen Specimens**

**Special Embedding Procedures in OCT**

**Immunohistochemical (IHC) staining** †

**Digital Slide Scanning**

† Please call for a list of available stains

## Immunohistochemistry 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 | CD31 | 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 Molecules | 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 |

†Please call if your ideal stain is not listed, we may be able to accommodate your requests.

# Histology

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Immunohistochemistry Biomarker List

| Indication | Antibody Name | Species |
|---|---|---|
| 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 |

† Please call for a list of available stains

## Immunohistochemistry Biomarker List

| Indication | Antibody Name | Species |
|---|---|---|
| Melanocyte marker | SOX10 | Canine |
| Melanocyte Markers | 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 |
| Oncology | PSMA | Human |
| Oncology | SATB2 | Canine |
| Oncology | Tryptase | Canine |
| Oncology | TTF-1 | Canine; Feline |

†Please call if your ideal stain is not listed, we may be able to accommodate your requests.

# Histology

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Immunohistochemistry Biomarker List

| Indication | Antibody Name | Species |
|---|---|---|
| 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 |

## Histology Slide Preparation Service Turnaround Times

- Turn around time is dependent on the size of studies and lab queue. Once we receive your study details, we can set TAT expectations, however, below are typical TATs.
- 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, call for more specific information.

## Histology Slide Preparation Special Stains†

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

† Please call for a list of available stains

†Please call if your ideal stain is not listed, we may be able to accommodate your requests.

# Histology and Histopathology Sample Preparation

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

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.

**Contact your local Account Manager, or Client Support Services at 1-800-669-0825 or idexxbioanalytics@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 70% alcohol or 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 one gallon 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 garbage bags and tie off each bag separately.
- Prior to knotting the first garbage 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 one gallon sealable bag, you can also use garbage 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 garbage 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

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Diagnostic Pathology Services

Our team of veterinary pathologists has extensive experience and expertise with animal health monitoring/disease surveillance and with the investigation of unexpected disease or outcomes in all species of research animals from aquatic species to rodents to non-human primates--whether they are on or off study. We will 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 in order to maximize diagnostic yield, facilitate diagnosis, and quickly identify potential interventions or disease management strategies.

*We do not accept non-human primate carcasses for dissection.

### Diagnostic Pathology Services

**Diagnostic Pathology Service**
Includes trimming and embedding of tissues, H&E slide preparation, special slide stain preparation as needed, pathologist evaluation and interpretation on a final report.

**Whole Carcass Necropsy- Fresh, fixed or unfixed carcass** (mouse or rat)

**Whole Carcass Necropsy- Fresh, fixed or unfixed carcass** (guinea pig, rabbit or other species)

**Turnaround Times**
A diagnostic pathology report will be available within 10 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.

## Research and Toxicologic Pathology Services

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, lesion 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.

*We do not accept non-human primate carcasses for dissection.

### Research and Toxicologic Pathology Services

**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**
Includes pathologist evaluation of tissue (per tissue charge), as well as one initial pathologist project consult and one study summary report.
Charges for tissue evaluation vary depending on evaluation criteria and needs of the study.
Other charges may include special stains, morphometric analyses, shipping costs for return of samples.

Standard semi-quantitative scoring using INHAND guidelines

Client directed scoring paradigm or other special requests

**Additional Anatomic Pathologist Support**
Includes additional pathologist consultation, edits and revision on reports, interim reports

**Clinical Pathology Contributing Scientist Report**
Interpretation of clinical pathology data including hematology, clinical chemistry, cytology

**Turnaround Times**
Turnaround times for research and toxicologic pathology results are based on study, type of evaluations performed, and additional services related to study evaluation goals.

### Photography Services (Gross and Microscopic)

**Annotated Digital Images** (available via cloud service)

**Non-Annotated Digital Images** (available via cloud service)

† Minimum sample quantity required for pricing listed. Minimum charges may apply.

# IDEXX Core Lab Testing Services

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

IDEXX BioAnalytics strives to supply the best results possible. As a result, IDEXX BioAnalytics runs some specialized testing types through our larger core laboratories located in the same facility as IDEXX BioAnalytics preclinical labs. Utilizing this additional resource allows us to offer a greater breadth of capabilities beyond IDEXX BioAnalytics lab-specific services.

## Microbiology

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Fast Stain for *Mycobacteria* spp.** | Slide, Culture swab or container | 2–3 days | **6408** |
| **Aerobic and Anaerobic Cultures** (ID only) | Two culturettes or sterile container (no formalin); please specify source | Up to 4 days for negative results, longer depending on growth | **64017** |
| **Aerobic and Anaerobic Cultures** (ID and Susceptibility) | Two culturettes or sterile container (no formalin); please specify source | Up to 4 days for negative results, longer depending on growth | **6401** |
| **Aerobic Culture** (ID Only) | Culturette or sterile container (no formalin); please specify site | Up to 4 days for negative results, longer depending on growth | **6427** |
| **Aerobic Culture** (ID and Susceptibility) | Culturette or sterile container (no formalin); please specify site | Up to 4 days for negative results, longer depending on growth | **64006** |
| **Blood Culture** (One Timepoint)– **Aerobic culture** (organism ID and susceptibility), **Anaerobic culture** (organism ID only) | In one 84 mL blood culture bottle, collect 5 mL whole blood for patients 5-20 lb, 7.5 mL for patients 20-40 lb, or 10 mL for patients >40 lb. For patients <5 lb, place 1.5 mL in one yellow-topped Wampole Isolator® tube. Keep at room temperature. | 8–10 days (4 weeks if fungal organisms suspected, the lab should be notified.) | **6406** |
| **Environmental Culture** | Culturette or sterile container (no formalin); please specify source | Up to 3 days for negative results; longer depending on growth | **6030** |
| **Fecal Enteric Pathogenic Culture, *Campylobacter* spp. Only** | 3–5 g fresh feces in fecal culture transport media (preferred), RTT, culturette or sterile container | 3–6 days, longer depending on growth | **64026** |
| **Fecal culture of enteric pathogens, including *Salmonella* spp., *Shigella* spp., *Aeromonas* spp., *Edwardsiella* spp. and *Plesiomonas* spp.** | 3-5 g fresh feces in fecal culture transport media (preferred), RTT, culturette or sterile container | 3–5 days, longer depending on growth | **64021** |
| **Fecal Enteric Pathogenic Culture 1 with *Campylobacter* spp. *Aeromonas* spp., *Edwardsiella* spp., *Plesiomonas* spp., *Salmonella* spp., *Shigella* spp., *Yersinia* spp.** | 3–5 g fresh feces in fecal culture transport media (preferred), RTT, culturette or sterile container | 3–6 days, longer depending on growth | **64022** |

# IDEXX Core Lab Testing Services

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Fecal Enteric Pathogenic Culture with *Campylobacter* spp., *Yersinia* spp., *Shigella* spp., *Aeromonas* spp., *Edwardsiella* spp., *Plesiomonas* spp., *Salmonella* spp.** | 3–5 g fresh feces in fecal culture transport media (preferred), RTT, Culturette or sterile container | 3–6 days, longer depending on growth | **64034** |
| **Fungal Culture** (ID Only) | 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 | **6405** |
| **Gram Stain** | Slide, culturette or sterile container | 2–3 days | **6409** |
| ***Mycoplasma* spp. Culture** | Mucus in Amies transport media without charcoal (preferred); semen or respiratory samples in sterile container (preferred) or by culturette; specify site | 5–7 days | **6411** |
| **Urine Culture and Susceptibility** | 1 mL urine in a sterile container (WTT and collection by cystocentesis preferred) | 1–3 working days for negative results, longer depending on growth | **6403** |

## Microbiology Sample Preparation and Handling Guide

IDEXX BioAnalytics recognizes that sample quality is directly correlated to receiving quality results. We recommend the following guidelines. Please specify source for all cultures. IDEXX BioAnalytics provides these collection supplies at no charge.

| Type of Source | Collection Supply Type | Specimen Preparation and Collection | Test to Request |
|---|---|---|---|
| **Abscess or Wound** | Culturette or sterile tube† Keep at room temperature | Aseptically prepare collection site. Aspirate fluid or pus from pustules or vesicular wounds and abscesses. | Aerobic and/or anaerobic culture |
| **Blood** | One blood culture bottle per time point. Do not submit swabs, serum or whole blood in LTT or RTT<br>For animals >5 lbs., use an 80-mL. Oxiod blood culture<br>For animals <5 lbs., (and all blood fungal cultures), use a yellow-top Wampole™ ISOLATOR™ pediatric bottle Keep at room temperature | Collection using sterile technique is critical for accurate results. Aseptically prepare venipuncture site. Disinfect the top of the culture bottle with alcohol and let dry. Ideally two samples drawn approximately one hour apart from different venous sites should be submitted.(Do not refrigerate.)<br>>40 lbs., place 10-mL blood in one 80 mL bottle<br>20–40 lbs., place 7.5-mL blood in one 80 mL bottle<br>5–20 lbs., place 5-mL blood in one 80 mL bottle<br><5 lbs., place 1.5-mL blood in one ISOLATOR™ pediatric bottle | Blood culture<br>If ruling out brucella canis-blood culture should be ordered<br>Fungal culture if ruling out fungus from blood |
| **Bone Marrow** | Sterile tube† | Aseptically prepare collection site. | Aerobic and/or anaerobic culture |
| **Central Nervous System** | Sterile tube† Keep at room temperature | Collect CSF (Cerebrospinal Fluid) by an ascetic ubdural tap, ventricular aspiration or lumbar puncture. | Aerobic and/or anaerobic culture |
| **Ears** | Culturette | Posterior pharyngeal cultures may also reveal organisms causing otitis media.<br>Note: Topical treatments may inhibit bacterial | Aerobic and/or anaerobic culture |

# IDEXX Core Lab Testing Services

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

| Type of Source | Collection Supply Type | Specimen Preparation and Collection | Test to Request |
|---|---|---|---|
| **Eyes** | Culturette | Use swab to collect suppurative material from cul-de-sac or media canthus.<br>Note: Topical anesthetic may inhibit bacterial | Aerobic and/or anaerobic culture |
| **Feces** | Fecal culture transport media (preferred) or sterile tube† | Avoid contamination with urine and soil. If Clostridium perfringens and Clostridium difficile enterotoxin testing will be performed, include 3–5 fresh feces in a sterile container. | Fecal culture |
| **Joint Fluid** | Sterile tube†, or blood culture bottle. Keep at room temperature | Aseptically inject fluid into a sterile tube or blood culture bottle. Specimens >48 hours old are not suitable for culture. | Aerobic and/or anaerobic culture |
| **Nail, Skin or Hair Culture (Fungal)** | Sterile tube†, envelope preferred for hair | Use a sterile blade or swab to collect material from infected nail. Scrape or swab active border of skin lesions. Hair should be plucked (not cut) in order to include roots. | Aerobic and/or fungal culture |
| **Sinus** | Culturette or sterile tube† | Aspirate from maxillary, frontal or other sinuses.<br>Note: Chronic sinusitis often involves anaerobic bacteria | Aerobic and/or fungal culture |
| **Tissue** | Sterile tube† | Place tissue in sterile tube with a small amount of saline or sterile Lactated Ringers solution to keep specimen hydrated.<br>Do not submit in formalin or ethanol. | Aerobic and/or fungal culture |
| **Tracheal wash/ Bronchoalveolar lavage (BAL)** | Sterile tube† | Place wash fluid in sterile tube. Best results can be expected when a buffered solution, such as Lactated Ringers Solution (LRS), is used, rather than acidic isotonic saline solutions. | Aerobic and/or fungal culture |
| **Urine** | Sterile tube† | Indicate collection method. Cystocentesis is strongly recommended (except in large animals). Avoid contamination with feces. | Urine culture (aerobic organism ID and susceptibility), Aerobic and/or anaerobic culture |

## Parasitology & Immunology

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Antinuclear Antibody (ANA) by IFA** | 1 mL serum | 2–4 days | **6700** |
| **Cardiopet® proBNP Test**–Canine | 1 mL EDTA plasma (preferred; spin and separate plasma into an RTT or a WTT [plain plastic tube]) | 1–3 days | **62665** |
| **Cardiopet® proBNP Test**–Feline | 1 mL serum or EDTA plasma (LLT; spin and separate plasma into an RTT or WTT [plain plastic tube]) | 1–3 days | **62666** |
| **Cryptosporidium Antigen by ELISA**–Mammals | 3–5 g fresh feces in a clean, plastic container or formalin | 1–3 days | **6514** |
| **Fecal Ova and Parasites by Zinc Sulfate Centrifugation** | 3–5 g fresh feces in a clean plastic container | 1–3 days | **6501** |
| **Ova and Parasites- NHP** | 3–5g fresh feces in a clean plastic container | 5–7 days | **6501** |
| **Ova and Parasites with Giardia spp. PCR - NHP** | 3–5g fresh feces in a clean plastic container, please also include SAF feces | 5–7 days | **2463** |
| **Parasite Stain–Trichrome Stain** | Fecal sample in SAF only | 10–14 days | **6505** |
| **Fecal Occult Blood** | 3–5 g fresh feces in a clean plastic container | 1–3 days | **6907** |
| **FeLV Antigen and FIV Antibody by ELISA** | 1 mL plasma (preferred) or serum | 1–3 days | **60687** |
| **FeLV Antigen by ELISA** | 1 mL plasma (preferred) or serum | 1–3 days | **6709** |
| **FIV Antibody by ELISA** | 1 mL serum or plasma | 1–3 days | **61039** |
| **Giardia Antigen by ELISA**–Mammals | 3–5 g (0.2 g minimum) fresh feces in a clean plastic container | 1–3 days | **6513** |

† Use a sterile plastic or plain non-additive tube without clot activator. Plastic RTT with clot activator (serum tubes) or Lavender Top Tube (LTT) are not recommended for cultures as these may inhibit bacterial growth.

# IDEXX Core Lab Testing Services

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Parasitology & Immunology

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Heartworm Antigen by ELISA**–Canine | 1 mL serum | 1–3 days | **6723** |
| **Heartworm Panel**–Canine<br>Canine heartworm antigen by ELISA, microfilariae by filter | 1 mL serum, 2mL LTT | 1–3 days | **6271** |
| **Lyme Quant C6® Antibody by ELISA** | 1 mL serum | 2–4 days | **67246** |
| **Spec fPL® Test**–Feline | 1 mL serum (fasted preferred) | 1–3 days | **62493** |
| **Spec cPL® Test**–Canine | 1 mL serum (fasted preferred) | 1–3 days | **61849** |

## Endocrinology

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **ACTH Stimulation** (One Pre, One Post)–Canine/Feline | 1 mL serum per specimen; label tubes as "pre" and "post" | 1–3 days | **119** |
| **ACTH, Endogenous**–Canine | 1 mL EDTA plasma, frozen, Collect after overnight fast | 3–5 days | **808** |
| **Cortisol**–Canine and Feline Only | 1 mL serum | 1–3 days | **6800** |
| **Cortisol by RIA** | 1 mL serum | 3–5 days | **8000** |
| **Insulin by RIA**–Canine and Equine Only | 1 mL serum | 3–5 days | **6805** |
| **Progesterone by RIA** | 1 mL serum (RTT only, no SST; spun and separated into another RTT or WTT) per specimen | 2–4 days | **68060** |
| **TSH, Endogenous**–Canine Only | 1 mL serum | 2–3 days | **6853** |
| **T3, Total by RIA** | 1 mL serum | 3–6 days | **6803** |
| **T4, Free by Equilibrium Dialysis** | 1 mL serum | 3–6 days | **6849** |
| **T4, Total by RIA** | Mammal: 1 mL serum; Avian: 0.3 mL serum, heparinized plasma (GNTT), or EDTA plasma (LTT) | 2–3 days | **6814** |

## Core Clinical Chemistry

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Bromide** | 1 mL serum | 2–5 days | **839** |
| **Cholinesterase** | 1 mL serum | 1–3 days | **6230** |
| **Cobalamin (Vitamin B12) and Folate** | 1 mL serum | 1–3 days | **2014** |

# IDEXX Core Lab Testing Services

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## RealPCR Molecular Diagnostics

| Test name and components | Specimen requirements | Turnaround time | Test code |
|---|---|---|---|
| **Diarrhea RealPCR Panel (Comprehensive)**–Canine<br>*Campylobacter coli, Campylobacter jejuni*, canine circovirus, canine distemper virus (CDV), canine enteric coronavirus (CECoV), canine parvovirus 2 (CPV-2), *Clostridium difficile* toxin A/B gene, *Clostridium perfringens* alpha toxin (CPA) gene quant, *Clostridium perfringens* CPnetE/F toxin gene quant, *Crytospordium* spp., *Giardia* spp., and *Salmonella* spp. | 5 g (1 g minimum) fresh feces in a sterile container; keep refrigerated. Collect specimen prior to antibiotic administration. | 1–4 days | **2625** |
| **Diarrhea RealPCR Panel (Comprehensive)**–Feline<br>*Campylobacter coli, Campylobacter jejuni, Clostridium perfringens* alpha toxin (CPA) gene Quant, Clostridium perfringens enterotoxin (CPE) gene Quant, *Cryptosporidium* spp., feline coronavirus (FeCoV), feline panleukopenia virus, *Giardia* spp., *Salmonella* spp., *Toxoplasma gondii*, and *Tritrichomonas blagburni* (formerly foetus) RealPCR™ tests. Includes quantification of *Clostridium perfringens enterotoxin* (CPA and CPE) genes if PCR positive. | 5 g (1 g minimum) fresh feces in a sterile container; keep refrigerated. Collect specimen prior to antibiotic administration. | 1–4 days | **2627** |
| ***Giardia* spp. RealPCR™ Test**–Mammals | 5 g fresh feces (1 g minimum) in a sterile container | 1–4 days | **2631** |
| **Respiratory Disease (CRD) RealPCR™ Panel (Comprehensive)**–Canine<br>*Bordetella bronchiseptica*, canine adenovirus type 2, canine distemper virus (CDV) Quant, canine herpesvirus (CHV-1), canine parainfluenza virus, canine pneumovirus, canine respiratory coronavirus (CRCoV), H3N2 canine influenza virus, influenza A virus (includes H1N1, H3N2, H3N8, H7N2), *Mycoplasma cynos* and *Streptococcus equi* subsp. zooepidemicus RealPCR™ tests. Includes quantification of distemper viral particles if PCR positive. Includes strain identification of influenza A if PCR positive. | Deep pharyngeal swab (with visible organic material on swab; please rub firmly) and a conjunctival swab (wipe eye clean, swab inside of eyelid), in the same tube. Please submit dry plastic-stemmed swabs, without transport media, in an RTT or an empty, sterile tube; keep refrigerated. Collect specimens prior to antibiotic administration. | 1-4 days | **2524** |
| **Tick/Vector Comprehensive RealPCR™ Panel**–Canine<br>Anaplasma spp., Babesia spp., Bartonella spp., Canine Hemotropic Mycoplasma, Ehrlichia spp., Hepatozoon spp., Leishmania spp. Quant, Neorickettsia risticii, and Rocky Mountain spotted fever (Rickettsia rickettsii) RealPCR™ tests. Includes quantification of Leishmania if PCR positive. | 2 mL EDTA whole blood (LTT); keep refrigerated. Collect specimen prior to antibiotic administration. | 1–3 days | **2870** |

## Additional RealPCR Tests

| | | |
|---|---|---|
| *Anaplasma* spp. | *Coccidioides* spp. | *Haemobartonella* |
| *Babesia* spp. | *Cryptococcus* spp. | *Hepatozoon* spp. |
| *Bartonella* spp. | *Cryptosporidium* spp. | *Histoplasma capsulatum* |
| *Bordetella bronchiseptica* | *Cytauxzoon felis* | *Lawsonia intracellularis* |
| *Borellia* 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

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

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.

## Coagulation

| Test name and components | Specimen requirements | Test code |
|---|---|---|
| **D-dimer**–Non-rodent | 0.5 mL frozen citrated plasma | **62235** |
| **D-dimer**–Rodent | 0.5 mL frozen citrated plasma | **62236** |
| **Factor VII Activity** | 2 mL citrated plasma | **62380** |
| **Factor V Activity** | 2 mL citrated plasma | **62385** |
| **Factor X Activity** | 2 mL citrated plasma | **62382** |
| **Factor VIII Activity** | 2 mL citrated plasma | **Call** |
| **Factor XII Activity** | 2 mL citrated plasma | **Call** |
| **Factor XIII Activity** | 2 mL citrated plasma | **Call** |
| **Thrombin** | 0.5 mL frozen citrated plasma | **Call** |
| **von Willebrand Factor (vWF;Ag)** –Canine, Feline, Equine | 1 mL frozen citrated plasma or EDTA plasma | **Call** |
| **von Willebrand Factor (vWF;Ag)** –Large animals, Exotics, Rodents | 1 mL frozen citrated plasma or EDTA plasma | **Call** |
| **Antithrombin** | NHP–1 mL frozen citrated plasma (ship on dry ice) | **Call** |
| **Antithrombin-Thrombin Complex** | NHP–1.5 mL frozen citrated plasma (ship on dry ice). Minimum 15 samples | **Call** |

## Endocrinology

| Test name and components | Specimen requirements | Test code |
|---|---|---|
| **IGF-1** | 1 mL serum | **Call** |
| **Insulin** | 1 mL frozen serum | **62230** |
| **Troponin I** | 0.5 mL serum or plasma | **62714** |
| **Cortisol-** NHP, Rodents, Cattle, FBS accepted | 1 mL serum or plasma | **62231** |
| **T3, Total Immulite-** all other species | 1.5 mL serum or heparinized plasma | **62232** |
| **Testosterone by RIA** | 0.15 mL serum | **62233** |

## Other

| Test name and components | Specimen requirements | Test code |
|---|---|---|
| **Iron Panel** | 2 mL frozen serum | **62229** |
| **Immunoglobulins, Quantitative IgG, IgM, IgA**–Canine | 1 mL serum | **62298** |
| **Minerals, fixed tissue** | 50 mg liver or tissue | **62632** |
| **Tacrolimus** | 3 mL EDTA whole blood | **Call** |

IDEXX BIOANALYTICS

# Getting Started

**Sample collection kit request**

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

Check out IDEXX BioAnalytics' **Welcome Portal**. Here you will find even more detailed information on how to start collecting and submitting samples, and request access to our client portal.

You can also reach out to our Client Support Service team and/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 phone calls and emails Monday through Friday from 8a.m – 8p.m. Eastern. They can be reached at:

**Client Support Services**
**1-800-669-0825**
**IDEXXBioAnalytics@IDEXX.com**

The CSS team can help you with:

- Account setup and sample submission
- Checking the status of a current submission
- Billing inquiries
- Requesting collection supplies
- And any other questions regarding our services

## Clinical Trial Support

IDEXX BioAnalytics is uniquely equipped to support your Good Clinical Practices (GCP) veterinary clinical trials according to VICH/GL9 Guidelines. With dedicated project managers, an experienced quality assurance unit (QAU), and detailed laboratory staff, we can help you gather the data needed and support your sites. Ask your account manager for more details.

## Supplies

IDEXX BioAnalytics can provide sampling, packing and shipping supplies. You can send a request for supplies to CSS or order right from our Welcome Portal.

IDEXX BIOANALYTICS

# Getting Started

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Submission Process

If you're ready to submit, you can fill out the **New Client Registration form** on our website. This will provide all the information needed to the CSS to get your account set up and an automated email with your client login information.

After receiving your login credentials, you'll be able to set up your submission paperwork **online**. Please see our website tutorials for how the system works. After you've completed the submission, please place a copy of the submission confirmation in your shipping container. This helps expedite the sample check-in process and assures that your samples can be immediately moved to the lab to begin processing.

### Proper specimen labeling is critical

- Proper labeling helps ensure accuracy in testing.
- 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, "serum").
- Always submit the submission form or a copy of your online submission packing list.
- It is strongly recommended that you submit your samples in sample boxes with the samples ordered as reflected on the submission form.

### Final preparation of samples for shipping and delivery

Your samples should be in zip lock bags or sample boxes and inside a box or shipping container, packed with filler material to prevent samples from being jostled in transit. The submission confirmation form should be inside the container. Samples should be on gel packs or dry ice depending upon specific needs; no wet ice please. Hematology, urinalysis or microbiology samples should not sit directly on gel packs.

## Shipping

Depending on your needs and location, you can either ship with FedEx or with an IDEXX courier.

### FedEx shipping

For clients in areas where couriers are not available or FedEx is preferred, IDEXX BioAnalytics can supply complimentary shipping of samples to our laboratory locations. Please contact FedEx for pick-up service specifics and proper shipping and transport packaging for your area at 1-800-GOFEDEX.

### Label the outside of all boxes with the following:

**To IDEXX BioAnalytics**
**From (Your Company Name)**
**Study ID #**

### Courier pick-up & shipping

Depending on your location, IDEXX BioAnalytics may provide courier services in your area. For more details or to find out if your location is serviced by a courier, please contact the Client Support Service team at 1-800-669-0825 or **idexxbioanalytics@idexx.com**

Do not send specimens for Laboratory Animal Diagnostics or Biological Materials testing to the Research Reference Lab locations. For Laboratory Animal Diagnostics or Biological Materials testing specimen shipping information, please contact the CSS team.

IDEXX BIOANALYTICS

# Getting Started

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Results Delivery Options

We provide results by email and our turnaround time (TAT) is 24-48 hours after receipt of samples for standard submissions. Additionally, results may be accessed through our secure online client portal. We offer multiple, easy to use reporting options to best suit your needs.

### 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, etc., please indicate in the general instructions section of submission form or contact Client Support Services prior to sample submission.

### Individual sample or multi-sample reports

On the IDEXX submission form or online submission portal, there is an option to have your reports grouped in two different ways. We are able to provide a single PDF file containing all sample results or individual PDFs per animal.

### Preliminary reports or final only reports

This setting is linked to the submitter account. To have adjustments made, please contact CSS. This is not an account setting typically adjusted per submission.

**Preliminary reports:** A preliminary PDF will be sent when EACH testing section (chemistry, hematology, coagulation, etc.) is completed. Once all sections are completed, a final PDF with any accompanying excel or csv files will be delivered by email.

For example, if you order chemistry, hematology, and urinalysis services on a single submission, you will receive at least 4 emails.

This option is best suited for clients who order a combination of tests that have short and long turnaround times; like a chemistry panel and send-out testing or hematology and microbiology.

**Final reports only**: Final PDFs are emailed when all testing on an accession is completed.

**The CSS team can assist with any adjustments to your result distribution preferences.**

IDEXX BIOANALYTICS

# North America Lab Locations

## Research Clinical Pathology Lab Services

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

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

## Animal Health Monitoring, Biological Materials Testing, Cytokines, and Histology and Anatomic Pathology Lab Services

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

## Customer Service

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

IDEXX BIOANALYTICS

# Europe Lab Locations

## Animal Health Monitoring, Biological Materials Testing, Histology Lab Services, and Research Pathology Lab Services

**Delivery Address**
IDEXX GmbH
IDEXX BioAnalytics
Im Moldengraben 65
D-70806 Kornwestheim
Germany

## Customer Service

| | | | |
|---|---|---|---|
| **Austria** | +49 (0) 7154 17 50 585 | **Netherlands** | +31 (0) 2355 87 585 |
| **Czech Republic** | +49 (0) 7154 17 50 585 | **Norway** | +44 (0) 193 75 44 023 |
| **Denmark** | +44 (0) 193 75 44 023 | **Poland** | +49 (0) 7154 17 50 585 |
| **Finland** | +44 (0) 193 75 44 023 | **Portugal** | +34 (0) 9326 72 813 |
| **France** | +33 (0) 1492 18 346 | **Spain** | +34 (0) 9326 72 813 |
| **Germany** | +49 (0) 7154 17 50 585 | **Sweden** | +44 (0) 193 75 44 023 |
| **Ireland** | +44 (0) 193 75 44 023 | **Switzerland** | +41 (0) 319 70 6270 |
| **Israel** | +33 (0) 1492 18 346 | **UK** | +44 (0) 193 75 44 023 |
| **Italy** | +34 (0) 9326 72 813 | **Other** | +49 (0) 7154 17 50 585 |

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

QUICK JUMP TO
→ Table of Contents

# Animal Health Monitoring

QUICK JUMP TO

→ Quick Reference

→ In-Depth Testing information (Listing of Profiles)

→ Resources

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**

## Aquatics Health Monitoring

| Testing Panels | Species | Method | Page |
|---|---|---|---|
| **Axolotl** | | | |
| Axolotl Comprehensive PCR Panel | Axolotl | real-time PCR | 46 |
| Axolotl Essential PCR Panel | Axolotl | real-time PCR | 46 |
| Axolotl Microbiology Panel | Axolotl | culture | 46 |
| **Xenopus** | | | |
| Xenopus Comprehensive PCR Panel | Xenopus | real-time PCR | 46 |
| Xenopus Essential PCR Panel | Xenopus | real-time PCR | 46 |
| Xenopus Microbiology Panel | Xenopus | culture | 46 |
| **Zebrafish** | | | |
| Zebrafish SLOM (screening less often migroroganism) PCR Panel NEW | Zebrafish | real-time PCR | 45 |
| Zebrafish SMOP (screening more often pathogens) PCR Panel NEW | Zebrafish | real-time PCR | 45 |
| Zebrafish Comprehensive PCR Panel | Zebrafish | real-time PCR | 45 |
| Zebrafish Essential PCR Panel | Zebrafish | real-time PCR | 45 |
| Zebrafish Mycobacterium PCR Panel | Zebrafish | real-time PCR | 45 |
| Zebrafish Microbiology Panel | Zebrafish | culture | 45 |
| **Pathology Service** | | | |
| Zebrafish Pathology Service | Zebrafish | | 45 |
| Small Fish Pathology Service: 0-6 cm (Medaka)† | | | 45 |
| Medium Fish Pathology Service: 7-13 cm (Bettas, Cavefish, Goldfish, Killifish)† | | | 45 |
| Large Fish Pathology Service: over 13 cm (Carp, large Goldfish, and others)† | | | 45 |

| Individual Agents | Microbiology / Parasitology | Molecular Diagnostic | Page |
|---|---|---|---|
| **Bacteria / Fungi** | | | |
| *Aeromonas dhakensis* | culture | | 45 |
| *Aeromonas hydrophila* | culture | real-time PCR | 45 |
| *Batrachochytrium dendrobatidis* | | real-time PCR | 46 |
| *Batrachochytrium salamandrivorans* | | real-time PCR | 46 |
| *Edwardsiella ictaluri* | culture | real-time PCR | 45 |
| *Elizabethkingia meningoseptica* | culture | | 46 |
| *Flavobacterium columnare* | culture | real-time PCR | 45 |
| *Ichthyophthirius multifiliis* | | real-time PCR | 45 |
| *Mycobacterium abscessus* | | real-time PCR | 45 |
| *Mycobacterium chelonae* | | real-time PCR | 45 |
| *Mycobacterium fortuitum* | | real-time PCR | 45 |
| *Mycobacterium gordonae* | | real-time PCR | 45 |
| *Mycobacterium haemophilum* | | real-time PCR | 45 |
| *Mycobacterium marinum* | | real-time PCR | 45 |
| *Mycobacterium peregrinum* | | real-time PCR | 45 |
| *Mycobacterium saopaulense* | | real-time PCR | 45 |
| *Mycobacterium ulcerans/liflandii* NEW | | real-time PCR | 46 |
| *Myxidium streisingeri* | | real-time PCR | 45 |
| *Piscinoodinium pillulare* | | real-time PCR | 45 |
| *Pleistophora hyphessobryconis* | | real-time PCR | 45 |
| *Plesiomonas shigelloides* | culture | | 45 |
| *Plumatella* spp. / Bryozonas NEW | | real-time PCR | 45 |
| *Pseudocapillaria tomentosa* | | real-time PCR | 45 |
| *Pseudocapillaroides xenopi* | | real-time PCR | 45 |
| *Pseudoloma neurophilia* | culture | real-time PCR | 45 |
| *Pseudomonas aeruginosa* | culture | | 45 |
| *Pseudomonas fluorescens* | culture | | 46 |
| *Salmonella enterica* | culture | | 46 |
| *Salmonella* spp. | culture | real-time PCR | 46 |
| *Saprolegnia brachydanis* NEW | | real-time PCR | 46 |
| *Saprolegnia* spp. | culture | | 46 |
| *Serratia marcrescens* | culture | | 46 |
| **Parasites** | | | |
| *Chilomastix* spp. | | real-time PCR | 45 |
| *Cryptosporidium* spp. | | real-time PCR | 45 |
| **Viruses** | | | |
| Infectious spleen and kidney necrosis virus (ISKNV) | | real-time PCR | 45 |
| Ranavirus spp. | | real-time PCR | 46 |
| Redspotted grouper nervous necrosis virus (RGNNV) NEW | | real-time PCR | 45 |
| Zebrafish Picornavirus (ZfPV1) | | real-time PCR | 45 |

† Colonies only

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**

## NHP Health Monitoring


| Testing Panels | Species | Method | Page |
|---|---|---|---|
| **Non Human Primates** | | | |
| **Real-time PCR Panels** | | | |
| Enteric Basic PCR Panel | | real-time PCR | 48 |
| Enteric Comprehensive PCR Panel | | real-time PCR | 48 |
| Helicobacter PCR Panel | | real-time PCR | 48 |
| **Microbiology Services** | | | |
| Enteric Primary Microbiology Panel | | culture | 48 |
| Enteric Basic Microbiology Panel | | culture | 48 |
| Enteric Comprehensive Microbiology Panel | | culture | 48 |
| **Parasitology Services** | | | |
| Fecal Ova and Parasite | | Sedimentation | 48 |
| Fecal Ova and Parasites with Giardia spp. PCR | | Sedimentation + PCR | 48 |



| Individual Agents | Microbiology / Parasitology | Molecular Diagnostic | Page |
|---|---|---|---|
| **Bacteria / Fungi** | | | |
| *Aeromonas hydrophila* | culture | | 48 |
| *Arcobacter butzleri* | culture | | 48 |
| *Campylobacter coli* | culture | real-time PCR | 48 |
| *Campylobacter jejuni* | culture | real-time PCR | 48 |
| *Clostridium difficile* toxin A | | real-time PCR | 48 |
| *Clostridium difficile* toxin B | | real-time PCR | 48 |
| *Clostridium perfringens* | culture | | 48 |
| *Clostridium perfringens* alpha toxin | | real-time PCR | 48 |
| *Clostridium perfringens* enterotoxin | | real-time PCR | 48 |
| *Clostridium piliforme* | | real-time PCR | 48 |
| *Edwardsiella tarda* | culture | | 48 |
| *Helicobacter* spp., *H.cinaedi/canicola, H.macacae, H.pylori, H.suis* | | real-time PCR | 48 |
| *Lawsonia intracellularis* | | real-time PCR | 48 |
| *Plesiomonas shigelloides* | culture | | 48 |
| *Salmonella* spp. | culture | real-time PCR | 48 |
| *Salmonella enterica* | culture | | 48 |
| *Shigella* spp. | culture | real-time PCR | 48 |
| *Yersinia enterocolitica* | culture | real-time PCR | 48 |
| *Yersinia pseudotuberculosis* | culture | real-time PCR | 48 |
| **Parasites** | | | |
| *Cryptosporidium* spp. | | real-time PCR | 48 |
| *Entamoeba histolytica/nuttalli* | | real-time PCR | 48 |
| *Giardia* spp. | | real-time PCR | 48 |

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**

## Rodents & Rabbit Health Monitoring


| Testing Panels | Species | Method | Page |
|---|---|---|---|
| **Mouse** | | | |
| **Mouse Serology Panels** | | | |
| Parvovirus Serology | Mouse | MFI | 63 |
| Primary Serology | Mouse | MFI | 63 |
| Clinical Serology | Mouse | MFI | 63 |
| Basic Serology | Mouse | MFI | 63 |
| Comprehensive Serology | Mouse | MFI | 63 |
| Comprehensive Plus Serology | Mouse | MFI | 63 |
| Global Serology | Mouse | MFI | 63 |
| FELASA Quarterly Serology | Mouse | MFI | 63 |
| FELASA Annual Serology | Mouse | MFI | 63 |
| **Mouse Health Monitoring** | | | |
| Mouse Advantage Prevalent | | | |
| OptiSpot® / Serum | Mouse | MFI | 50 |
| Feces | Mouse | real-time PCR | 50 |
| Fur Swab | Mouse | real-time PCR | 51 |
| Mouse Advantage Basic | | | |
| OptiSpot® / Serum | Mouse | MFI | 50 |
| Feces | Mouse | real-time PCR | 50 |
| Fur Swab | Mouse | real-time PCR | 51 |
| Oral Swab | Mouse | real-time PCR | 51 |
| Mouse Advantage Comprehensive | | | |
| OptiSpot® / Serum | Mouse | MFI | 50 |
| Feces | Mouse | real-time PCR | 50 |
| Fur Swab | Mouse | real-time PCR | 51 |
| Oral Swab | Mouse | real-time PCR | 51 |
| Mouse Advantage Comprehensive Plus | | | |
| OptiSpot® / Serum | Mouse | MFI | 50 |
| Feces | Mouse | real-time PCR | 50 |
| Fur Swab | Mouse | real-time PCR | 51 |
| Oral Swab | Mouse | real-time PCR | 51 |
| Mouse Advantage Global | | | |
| OptiSpot® / Serum | Mouse | MFI | 50 |
| Feces | Mouse | real-time PCR | 50 |
| Fur Swab | Mouse | real-time PCR | 51 |
| Oral Swab | Mouse | real-time PCR | 51 |
| Mouse FELASA Quarterly | | | |
| OptiSpot® / Serum | Mouse | MFI | 50 |
| Feces | Mouse | real-time PCR | 50 |
| Fur Swab | Mouse | real-time PCR | 51 |
| Oral Swab | Mouse | real-time PCR | 51 |
| Mouse FELASA Annual | | | |
| OptiSpot® / Serum | Mouse | MFI | 50 |
| Feces | Mouse | real-time PCR | 50 |
| Fur Swab | Mouse | real-time PCR | 51 |
| Oral Swab | Mouse | real-time PCR | 51 |
| **Mouse Quarantine Testing with Serology** | | | |
| Mouse Advantage Q-Prevalent | | | |
| OptiSpot® / Serum | Mouse | MFI | 52 |
| Feces | Mouse | real-time PCR | 53 |
| Fur Swab | Mouse | real-time PCR | 53 |
| Mouse Advantage Q-Basic | | | |
| OptiSpot® / Serum | Mouse | MFI | 52 |
| Feces | Mouse | real-time PCR | 53 |
| Fur Swab | Mouse | real-time PCR | 53 |
| Oral Swab | Mouse | real-time PCR | 53 |
| Mouse Advantage Q-Comprehensive | | | |
| OptiSpot® / Serum | Mouse | MFI | 52 |
| Feces | Mouse | real-time PCR | 53 |
| Fur Swab | Mouse | real-time PCR | 53 |
| Oral Swab | Mouse | real-time PCR | 53 |

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**


| Testing Panels | Species | Method | Page |
|---|---|---|---|
| Mouse Advantage Q-Global | | | |
| OptiSpot® / Serum | Mouse | MFI | 52 |
| Feces | Mouse | real-time PCR | 53 |
| Fur Swab | Mouse | real-time PCR | 53 |
| Oral Swab | Mouse | real-time PCR | 53 |
| **Mouse PCR ONLY Testing for quarantine, Environmental diagnostic (EDX)** | | | |
| Mouse Opti-XXpress / EDx Prevalent | Mouse | real-time PCR | 53 |
| Mouse Opti-XXpress / EDx Basic | Mouse | real-time PCR | 53 |
| Mouse Opti-XXpress / EDx Comprehensive | Mouse | real-time PCR | 53 |
| Mouse Opti-XXpress / EDx Global | Mouse | real-time PCR | 53 |
| **Mouse Necropsy Profiles** | | | |
| Mouse Immunocompromised | Mouse | | 72 |
| Mouse Primary | Mouse | | 72 |
| Mouse Clinical | Mouse | | 72 |
| Mouse Basic | Mouse | | 72 |
| Mouse Comprehensive | Mouse | | 72 |
| Mouse Comprehensive Plus | Mouse | | 72 |
| Mouse Global | Mouse | | 72 |
| **Mouse specific agents** | | | |
| Individual Serology Assay | Mouse | MFI | 66 |
| Individual Serology Assay added to existing Serology profile | Mouse | MFI | 66 |
| Individual PCR Assay | Mouse | real-time PCR | 68 |
| Individual PCR Assay added to existing PCR profile | Mouse | real-time PCR | 68 |
| **Rat** | | | |
| **Rat Serology Panels** | | | |
| Parvovirus Serology | Rat | MFI | 63 |
| Primary / Prevalent Serology | Rat | MFI | 63 |
| Clinical Serology | Rat | MFI | 63 |
| Basic Serology | Rat | MFI | 63 |
| Comprehensive Serology | Rat | MFI | 63 |
| Global Serology | Rat | MFI | 63 |
| FELASA Quarterly Serology | Rat | MFI | 63 |
| FELASA Annual Serology | Rat | MFI | 63 |
| **Rat Health Monitoring** | | | |
| Rat Advantage Prevalent | | | |
| OptiSpot® / Serum | Rat | MFI | 51 |
| Feces | Rat | real-time PCR | 51 |
| Fur Swab | Rat | real-time PCR | 52 |
| Rat Advantage Basic | | | |
| OptiSpot® / Serum | Rat | MFI | 51 |
| Feces | Rat | real-time PCR | 51 |
| Fur Swab | Rat | real-time PCR | 52 |
| Oral Swab | Rat | real-time PCR | 52 |
| Rat Advantage Comprehensive | | | |
| OptiSpot® / Serum | Rat | MFI | 51 |
| Feces | Rat | real-time PCR | 51 |
| Fur Swab | Rat | real-time PCR | 52 |
| Oral Swab | Rat | real-time PCR | 52 |
| Rat Advantage Global | | | |
| OptiSpot® / Serum | Rat | MFI | 51 |
| Feces | Rat | real-time PCR | 51 |
| Fur Swab | Rat | real-time PCR | 52 |
| Oral Swab | Rat | real-time PCR | 52 |
| Rat FELASA Quarterly | | | |
| OptiSpot® / Serum | Rat | MFI | 51 |
| Feces | Rat | real-time PCR | 51 |
| Fur Swab | Rat | real-time PCR | 52 |
| Oral Swab | Rat | real-time PCR | 52 |
| Rat FELASA Annual | | | |
| OptiSpot® / Serum | Rat | MFI | 51 |
| Feces | Rat | real-time PCR | 51 |

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**


| Testing Panels | Species | Method | Page |
|---|---|---|---|
| Fur Swab | Rat | real-time PCR | 52 |
| Oral Swab | Rat | real-time PCR | 52 |
| **Rat Quarantine Testing wth serology** | | | |
| Rat Advantage Q-Prevalent | | | |
| OptiSpot® / Serum | Rat | MFI | 54 |
| Feces | Rat | real-time PCR | 54 |
| Fur Swab | Rat | real-time PCR | 54 |
| Rat Advantage Q-Basic | | | |
| OptiSpot® / Serum | Rat | MFI | 54 |
| Feces | Rat | real-time PCR | 54 |
| Fur Swab | Rat | real-time PCR | 54 |
| Oral Swab | Rat | real-time PCR | 54 |
| Rat Advantage Q-Comprehensive | | | |
| OptiSpot® / Serum | Rat | MFI | 54 |
| Feces | Rat | real-time PCR | 54 |
| Fur Swab | Rat | real-time PCR | 54 |
| Oral Swab | Rat | real-time PCR | 54 |
| Rat Advantage Q-Global | | | |
| OptiSpot® / Serum | Rat | MFI | 54 |
| Feces | Rat | real-time PCR | 54 |
| Fur Swab | Rat | real-time PCR | 54 |
| Oral Swab | Rat | real-time PCR | 54 |
| **Rat PCR ONLY Testing for quarantine, Environmental diagnostic (EDx)** | | | |
| Rat Opti-XXpress / EDx Prevalent | Rat | real-time PCR | 56 |
| Rat Opti-XXpress / EDx Basic | Rat | real-time PCR | 56 |
| Rat Opti-XXpress / EDx Comprehensive | Rat | real-time PCR | 56 |
| Rat Opti-XXpress / EDx Global | Rat | real-time PCR | 56 |
| **Rat Necropsy Profiles** | | | |
| Rat Immunocompromised | Rat | | 72 |
| Rat Primary | Rat | | 72 |
| Rat Clinical | Rat | | 72 |
| Rat Basic | Rat | | 72 |
| Rat Comprehensive | Rat | | 72 |
| Rat Global | Rat | | 68 |

| Testing Panels | Species | Method | Page |
|---|---|---|---|
| **Rat specific agents** | | | |
| Individual Serology Assay | Rat | MFI | 66 |
| Individual Serology Assay added to existing Serology profile | Rat | MFI | 66 |
| Individual PCR Assay | Rat | real-time PCR | 68 |
| Individual PCR Assay added to existing PCR profile | Rat | real-time PCR | 68 |
| **Guinea Pig** | | | |
| **Guinea Pig Serology Panels** | | | |
| Basic Serology | Guinea Pig | MFI | 58 |
| Comprehensive Serology | Guinea Pig | MFI | 58 |
| Global Serology | Guinea Pig | MFI | 58 |
| **Guinea Pig Health Monitoring** | | | |
| Guinea Pig Basic | | | |
| OptiSpot® / Serum | Guinea Pig | MFI | 58 |
| Feces, Oral Swab, Fur Swab | Guinea Pig | real-time PCR | 58 |
| Guinea Pig Comprehensive | | | |
| OptiSpot® / Serum | Guinea Pig | MFI | 58 |
| Feces, Oral Swab, Fur Swab | Guinea Pig | real-time PCR | 58 |
| Guinea Pig Global | | | |
| OptiSpot® / Serum | Guinea Pig | MFI | 58 |
| Feces, Oral Swab, Fur Swab | Guinea Pig | real-time PCR | 58 |
| Guinea Pig Parasitology | | | |
| Parasitology | Guinea Pig | Fecal Flotation, Microscopic Examination | 58 |
| **Hamster** | | | |
| **Hamster Serology Panels** | | | |
| Clinical Serology | Hamster | MFI | 59 |
| Comprehensive Serology | Hamster | MFI | 59 |
| Global Serology | Hamster | MFI | 59 |
| **Hamster Health Monitoring** | | | |
| Hamster Clinical | | | |
| OptiSpot® / Serum | Hamster | MFI | 59 |
| Feces, Oral Swab, Fur Swab | Hamster | real-time PCR | 59 |

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**


| Testing Panels | Species | Method | Page |
|---|---|---|---|
| Hamster Comprehensive | | | |
| OptiSpot® / Serum | Hamster | MFI | 59 |
| Feces, Oral Swab, Fur Swab | Hamster | real-time PCR | 59 |
| Hamster Global | | | |
| OptiSpot® / Serum | Hamster | MFI | 59 |
| Feces, Oral Swab, Fur Swab | Hamster | real-time PCR | 59 |
| Hamster Parasitology | | | |
| Parasitology | Hamster | Fecal Flotation, Microscopic Examination | 59 |
| **Rabbit** | | | |
| **Rabbit Serology Panels** | | | |
| Comprehensive Serology | Rabbit | MFI | 60 |
| **Rabbit Health Monitoring** | | | |
| Rabbit Comprehensive | | | |
| OptiSpot® / Serum | Rabbit | MFI | 60 |
| Feces, Oral Swab, Fur Swab | Rabbit | real-time PCR | 60 |
| Rabbit Global | | | |
| Feces, Oral Swab, Fur Swab | Rabbit | real-time PCR | 60 |
| Rabbit Parasitology | | | |
| Parasitology | Rabbit | Fecal Flotation, Microscopic Examination | 60 |
| **Chinchilla *NEW*** | | | |
| **Chinchilla Serology Panels** | | | |
| Prevalent Serology | Chinchilla | MFI | 61 |
| Comprehensive Serology | Chinchilla | MFI | 61 |
| **Chinchilla Health Monitoring** | | | |
| Chinchilla Prevalent | | | |
| OptiSpot® / Serum | Chinchilla | MFI | 61 |
| Feces, Oral Swab, Fur Swab | Chinchilla | real-time PCR | 61 |
| Chinchilla Comprehensive | | | |
| OptiSpot® / Serum | Chinchilla | MFI | 61 |
| Feces, Oral Swab, Fur Swab | Chinchilla | real-time PCR | 61 |
| Chinchilla Global | | | |
| Feces, Oral Swab, Fur Swab | Chinchilla | real-time PCR | 61 |
| Chinchilla Parasitology | | | |
| Parasitology | Chinchilla | Fecal Flotation, Microscopic Examination | 61 |

| Testing Panels | Species | Method | Page |
|---|---|---|---|
| **Other Rodents PCR Panels** | | | |
| Fecal A Mouse PCR | | real-time PCR | 57 |
| Fecal B Mouse PCR | | real-time PCR | 57 |
| Fecal C Mouse PCR | | real-time PCR | 57 |
| Fecal Rat PCR | | real-time PCR | 57 |
| Parvovirus Mouse PCR | | real-time PCR | 57 |
| Parvovirus Plus Mouse PCR | | real-time PCR | 57 |
| Parvovirus Rat PCR | | real-time PCR | 57 |
| Helicobacter PCR | | real-time PCR | 57 |
| Pinworm / Fur Mites PCR | | real-time PCR | 57 |
| Pinworm / Fur Mites / Helicobacter PCR | | real-time PCR | 57 |
| Protozoa PCR | | real-time PCR | 57 |
| Skin PCR | | real-time PCR | 57 |
| Dermatophytes PCR | | real-time PCR | 57 |
| Opportunistic Bacteria Mouse PCR | | real-time PCR | 57 |
| Opportunistic Bacteria Rat PCR | | real-time PCR | 57 |
| EDx Parasite PCR | | real-time PCR | 57 |
| EDx Primary PCR | | real-time PCR | 57 |
| Acute Disease Guinea Pig PCR | | real-time PCR | 62 |
| Opportunistic Bacteria Guinea Pig PCR | | real-time PCR | 62 |
| Diahrrea Hamster PCR | | real-time PCR | 62 |
| Respiratory Hamster PCR | | real-time PCR | 62 |
| Opportunistic Bacteria Hamster PCR | | real-time PCR | 62 |


## Rodents & Rabbit Additional Testing Services


| Testing Panels | Page |
|---|---|
| Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) PCR Panel | 56 |
| Microbiology Testing - General | 75 |
| Microbiology Testing - Water | 75 |
| Microbiology Testing - Environmental | 76 |
| Diagnostic Pathology Services | 77 |
| Altered Schaedler Flora Bacteria Detection | 77 |
| Germ-Free Animal Monitoring | 78 |
| Microbiome Analysis | 78 |

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**

| Individual Agents | Serology | Microbiology / Parasitology | Molecular Diagnostic | Page |
|---|---|---|---|---|
| **Bacteria / Fungi** | | | | |
| *Bordetella bronchiseptica* | | Culture | real-time PCR | 66 |
| *Bordetella hinzii/pseudohinzii* | | Culture | real-time PCR | 66 |
| *Burkholderia gladioli* | | Culture | real-time PCR | 66 |
| Filobacterium rodentium (CAR bacillus) | MFI | | real-time PCR | 66 |
| Campylobacter coli | | | real-time PCR | 66 |
| Campylobacter jejuni | | | real-time PCR | 66 |
| Campylobacter coli | | | real-time PCR | 66 |
| *Citrobacter rodentium* | | Culture | real-time PCR | 66 |
| *Clostridium piliforme (Tyzzer's disease)* | MFI | | real-time PCR | 71 |
| *Corynebacterium bovis* | | Culture | real-time PCR | 71 |
| *Corynebacterium* spp. (HAC2) | | Culture | real-time PCR | 71 |
| *Corynebacterium kutscheri* | | Culture | real-time PCR | 71 |
| Dermatophytes *(Microsporum* sp., *Trichophyton* spp.) | | Culture | real-time PCR | 71 |
| *Encephalitozoon cuniculi* | MFI | | real-time PCR | 71 |
| *Helicobacter* spp., *H.bilis, H.diminuta, H.ganmani, H.hepaticus, H.mastomyrinus, H.rodentium, H.typhlonius* | | | real-time PCR | 71 |
| *Klebsiella oxytoca* | | Culture | real-time PCR | 71 |
| *Klebsiella pneumoniae* | | Culture | real-time PCR | 74 |
| *Leptospira* spp. | MFI | | real-time PCR | 74 |
| *Mycoplasma pulmonis* | MFI | | real-time PCR | 74 |
| *Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | | Culture | real-time PCR | 74 |
| *Pasteurella multocida* | | Culture | real-time PCR | 64 |
| *Pneumocystis* spp. | | | real-time PCR | 74 |
| *Pneumocystis carinii* | MFI | | real-time PCR | 74 |
| *Pneumocystis murina* | MFI | | real-time PCR | 74 |
| *Proteus mirabilis* | | Culture | real-time PCR | 74 |
| *Pseudomonas aeruginosa* | | Culture | real-time PCR | 74 |
| *Salmonella enterica* | | Culture | | 74 |
| *Staphylococcus aureus* | | Culture | real-time PCR | 74 |
| *Staphylococcus xylosus* | | Culture | real-time PCR | 74 |
| *Streptobacillus moniliformis* | | | real-time PCR | 74 |
| *Streptococcus,* β-hemolytic | | Culture | real-time PCR | 74 |
| *Streptococcus pyogenes* (Group A) | | Culture | real-time PCR | 74 |
| *Streptococcus agalactiae* (Group B) | | Culture | real-time PCR | 74 |
| *Streptococcus equi subsp. zooepidemicus* (Group C) | | Culture | real-time PCR | 74 |
| *Streptococcus canis* (Group G) | | Culture | real-time PCR | 74 |
| *Streptococcus pneumoniae* | | Culture | real-time PCR | 74 |
| *Treponema paraluiscuniculi* | | | real-time PCR | 74 |
| **Parasites** | | | | |
| *Aspiculuris tetraptera* | | direct examination | real-time PCR | 74 |
| *Chilomastix* spp. | | direct examination | real-time PCR | 74 |
| *Cryptosporidium muris* | | direct examination | real-time PCR | 74 |
| *Cryptosporisium parvum* | | direct examination | real-time PCR | 74 |
| *Cryptosporidium* spp. | | direct examination | real-time PCR | 74 |
| *Demodex musculi* | | direct examination | real-time PCR | 74 |
| *Eimeria* spp. | | direct examination | real-time PCR | 74 |
| *Entamoeba muris* | | direct examination | real-time PCR | 74 |
| *Giardia muris* | | direct examination | real-time PCR | 74 |
| *Hymenolepis diminuta* | | direct examination | real-time PCR | 74 |
| *Myobia musculi* | | direct examination | real-time PCR | 74 |
| *Myocoptes musculinus* | | direct examination | real-time PCR | 74 |
| *Ornithonyssus* spp. | | direct examination | real-time PCR | 74 |
| *Radfordia affinis* | | direct examination | real-time PCR | 74 |
| *Radfordia ensifera* | | direct examination | real-time PCR | 74 |
| *Rodentolepis nana* | | direct examination | real-time PCR | 74 |
| *Spironucleus muris* | | direct examination | real-time PCR | 74 |
| *Syphacia muris* | | direct examination | real-time PCR | 74 |
| *Syphacia obvelata* | | direct examination | real-time PCR | 74 |
| *Tritrichomonas muris* | | direct examination | real-time PCR | 74 |

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**

| Individual Agents | Serology | Microbiology / Parasitology | Molecular Diagnostic | Page |
|---|---|---|---|---|
| **Viruses** | | | | |
| Boone cardiovirus (BCV) | MFI | | real-time PCR | 73 |
| Ectromelia virus (mouse poxvirus) | MFI | | real-time PCR | 73 |
| Guinea pig adenovirus (GPAV) | MFI | | real-time PCR | 73 |
| Guinea pig cytomegalovirus (GPCMV) | MFI | | real-time PCR | 73 |
| Hamster parvovirus (HaPV) | MFI | | real-time PCR | 73 |
| Hamster polyomavirus | MFI | | real-time PCR | 73 |
| Hantaviruses (Hantaan, Seoul, Sin Nombre) | MFI | | real-time PCR | 73 |
| Infectious diarrhea of infant rats (IDIR) | MFI | | real-time PCR | 73 |
| K virus (Mouse pneumotropic virus) | MFI | | real-time PCR | 73 |
| Kilham's rat virus (KRV) | MFI | | real-time PCR | 73 |
| Lactate dehydrogenase-elevating virus (LDEV) | MFI | | real-time PCR | 73 |
| Lymphocytic choriomeningitis virus (LCMV) | MFI | | real-time PCR | 73 |
| Minute virus of mice (MVM) | MFI | | real-time PCR | 73 |
| Mouse adenovirus 1 (MAV1) (FL) | MFI | | real-time PCR | 73 |
| Mouse adenovirus 2 (MAV2) (K87) | MFI | | real-time PCR | 73 |
| Mouse cytomegalovirus (MCMV) | MFI | | real-time PCR | 73 |
| Mouse hepatitis virus (MHV) | MFI | | real-time PCR | 73 |
| Mouse kidney parvovirus (MKPV) | MFI | | real-time PCR | 73 |
| Mouse parvovirus (MPV1-5) | MFI | | real-time PCR | 73 |
| Mouse rotavirus (MRV/EDIM) | MFI | | real-time PCR | 73 |
| Mouse thymic virus (MTV) | MFI | | real-time PCR | 73 |
| Murine astrovirus 1 (MuAstV1) | MFI | | real-time PCR | 73 |
| Murine norovirus (MNV) | MFI | | real-time PCR | 73 |
| Murine polyomavirus | MFI | | real-time PCR | 73 |
| Parainfluenza virus 3 (PI3) | MFI | | real-time PCR | 73 |
| Pneumonia virus of mice (PVM) | MFI | | real-time PCR | 73 |
| Rabbit hemorrhagic disease virus (RHDV) | ELISA | | | |
| Rat coronavirus (RCV)/Sialodacryoadenitis virus (SDAV) | MFI | | real-time PCR | 73 |
| Rat cytomegalovirus (RCMV) | | | real-time PCR | 73 |
| Rat minute virus (RMV) | MFI | | real-time PCR | 73 |
| Rat parvovirus (RPV) | MFI | | real-time PCR | 73 |
| Rat polyomavirus 2 (RPyV2) | MFI | | real-time PCR | 73 |
| Rat rotavirus (IDIR) | MFI | | real-time PCR | 73 |
| Rat theilovirus (RTV) | MFI | | real-time PCR | 73 |
| Reovirus 3 (REO3) | MFI | | real-time PCR | 73 |
| Rotavirus group A (ROTA) | MFI | | real-time PCR | 73 |
| Severe acute respiratory syndrome coronavirus 2 (SARS-CoV 2) | ELISA | | real-time PCR | 73 |
| Sendai virus (SEND) | MFI | | real-time PCR | 73 |
| Seoul virus | | | real-time PCR | 73 |
| Simian virus 5 (SV5) | MFI | | | 73 |
| Sin Nombre virus | | | real-time PCR | 73 |
| Theiler's murine encephalomyelitis virus (TMEV) | MFI | | real-time PCR | 73 |
| Toolan's H-1 virus (H-1) | MFI | | real-time PCR | 73 |

# Aquatics Health Monitoring

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

*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.*

## Agent that causes 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 | Sample Type |
|---|---|
| *Plumatellidae* NEW | E |

## Zebrafish real-time PCR Panels

| | Preferred sample type(s) | Mycobacterium | Essential | Comprehensive | FELASA / AALAS Quarterly (SMOP - screening more often pathogens) | FELASA / AALAS Annual (SLOM - screening less often microorganisms) |
|---|---|---|---|---|---|---|
| *Mycobacterium abscessus* | WF, E | ● | ● | ● | ● | ● |
| *Mycobacterium chelonae* | WF, E | ● | ● | ● | ● | ● |
| *Mycobacterium fortuitum* | WF, E | ● | ● | ● | ● | ● |
| *Mycobacterium haemophilum* | WF, E | ● | ● | ● | ● | ● |
| *Mycobacterium marinum* | WF, E | ● | ● | ● | ● | ● |
| *Mycobacterium peregrinum* | WF, E | ● | ● | ● | ● | ● |
| *Mycobacterium saopaulense* | WF, E | ● | ● | ● | ● | ● |
| *Mycobacterium gordonae* | WF, E | ● | ● | ● | ● | ● |
| *Edwardsiella ictaluri* | WF, E | | ● | ● | | ● |
| *Pseudocapillaria tomentosa* | WF, E | | ● | ● | ● | ● |
| *Pseudoloma neurophilia* | WF | | ● | ● | ● | ● |
| *Flavobacterium columnare* | WF, E | | | ● | | ● |
| *Ichthyophthirius multifiliis* | WF | | | ● | | ● |
| Infectious spleen and kidney necrosis virus (ISKNV) | WF | | | ● | | ● |
| *Piscinoodinium pillulare* | WF | | | ● | | ● |
| *Pleistophora hyphessobryconis* | WF | | | ● | | ● |
| *Myxidium streisingeri* | WF, E | | ● | ● | | ● |
| Zebrafish picornavirus (ZfPV1) | WF, F | | ● | ● | | ● |
| Redspotted grouper nervous necrosis virus (RGNNV) new | WF | | | ● | | ● |
| Saprolegnia brachydanis | WF, E | | | ● | | |
| Aeromonas hydrophilia | WF, E | | | ● | | |

**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

## Zebrafish Microbiology Panel

| | Preferred sample type(s) | |
|---|---|---|
| *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. | SS, E, T, WF | ● |

## Fish Pathology Services

Service includes:
Histologic slide preparation, H&E and Acid-Fast stains, pathologist's evaluation and report

| Test name and components |
|---|
| Zebrafish pathology |
| Small fish pathology: 0–6 cm (Medaka) |
| Medium fish pathology: 7–13 cm (Bettas, Cavefish, Goldfish, Killifish) |
| Large fish pathology: over 13 cm (Carp, large Goldfish, and others) |

# Aquatics Health Monitoring

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Axolotl real-time PCR Panels

| | Preferred sample type(s) | Essential | Comprehensive |
|---|---|---|---|
| *Batrachochytrium dendrobatidis* | SS, E | • | • |
| *Mycobacterium chelonae* | T, E | • | • |
| *Mycobacterium marinum* | T, E | • | • |
| Ranavirus spp. | T, F | • | • |
| *Salmonella* spp. | F | • | • |
| *Batrachochytrium salamandrivorans* | SS, E | | • |
| *Chilomastix* spp. | F | | • |
| *Flavobacterium columnare* | SS, E | | • |
| *Piscinoodinium pillulare* | SS | | • |

## Xenopus real-time PCR Panels

| | Preferred sample type(s) | Essential | Comprehensive |
|---|---|---|---|
| *Batrachochytrium dendrobatidis* | ventral skin swab | • | • |
| *Mycobacterium chelonae* | E, swab of lesion, kidney, liver | • | • |
| *Mycobacterium gordonae* | E, swab of lesion, kidney, liver | • | • |
| *Mycobacterium marinum* | E, swab of lesion, kidney, liver | • | • |
| *Pseudocapillaroides xenopi* | dorsal skin swab | • | • |
| *Ranavirus* spp. | T, F | • | • |
| *Cryptosporidium* spp. | F | | • |
| *Pseudomonas aeruginosa* | F, swab of lesion | | • |
| *Salmonella* spp. | F | | • |

## Axolotl Microbiology Panel

| | Preferred sample type(s) | |
|---|---|---|
| *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 Microbiology Panel

| | Preferred sample type(s) | |
|---|---|---|
| *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, E | • |
| *Saprolegnia* spp. | F, SS, T, E | • |

## Pathology Services

Diagnostic histopathology services for Axolotl, Xenopus and other aquatic species are also available. Please contact us for details.

**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

# Aquatics Health Monitoring

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Sample Information

### Zebrafish and other laboratory fishes

- For submission of live fish for necropsy: Please ship live fish in clearly labeled heavy-duty plastic bladders or in doubled plastic bags, secured so that they will not leak and containing approximately 1/3 system water and 2/3 air. Fish should be shipped in insulated containers by overnight courier.
- 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 seperate 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.

## Turnaround Times

PCR results turnaround is 3 business days after receipt of samples. PDF results will be delivered by email and will be available via the secure, online client portal.

Culture results turnaround is 10–14 business days after receipt of samples. PDF results will be delivered by email and will be available via the secure, online client portal.

Diagnostic histopathology results turnaround is 10 business days after receipt of samples. PDF results will be delivered by email and will be available via the secure, online client portal.

# Non-Human Primates Diagnostics

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

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.

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

## Enteric real-time PCR Panels

| | Preferred sample type(s) | Helicobacter | Basic | Comprehensive |
|---|---|---|---|---|
| *Helicobacter* spp.<br>*H.cinaedi/canicola, H.macacae, H.pylori, H.suis* | F | • | • | • |
| *Campylobacter coli* | F | | • | • |
| *Campylobacter jejuni* | F | | • | • |
| *Salmonella* spp. | F | | • | • |
| *Shigella* spp. | F | | • | • |
| *Yersinia enterocolitica* | F | | • | • |
| *Yersinia pseudotuberculosis* | F | | • | • |
| *Clostridium difficile* toxin A | F | | | • |
| *Clostridium difficile* toxin B | F | | | • |
| *Clostridium perfringens* alpha toxin | F | | | • |
| *Clostridium perfringens* enterotoxin | F | | | • |
| *Clostridium piliforme* | F | | | • |
| *Cryptosporidium* spp. | F | | | • |
| *Entamoeba histolytica/nuttalli* | F | | | • |
| *Giardia* spp. | F | | | • |
| *Lawsonia intracellularis* | F | | | • |

## Enteric Microbiology Panels

| | Preferred sample type(s) | Primary | Basic | Comprehensive |
|---|---|---|---|---|
| *Campylobacter coli* | F | • | • | • |
| *Campylobacter jejuni* | F | • | • | • |
| *Salmonella enterica* | F | • | • | • |
| *Shigella* spp. | F | • | • | • |
| *Yersinia enterocolitica* | F | • | • | • |
| *Yersinia pseudotuberculosis* | F | • | • | • |
| *Aeromonas hydrophila* | F | | • | • |
| *Edwardsiella tarda* | F | | • | • |
| *Plesiomonas shigelloides* | F | | • | • |
| *Arcobacter butzleri* | F | | | • |
| *Clostridium perfringens* | F | | | • |
| *Clostridium difficile* | F | | | • |
| Antibiotic sensitivity testing - if positives detected | F | • | • | • |

## Parasitology

| | Preferred sample type(s) |
|---|---|
| Fecal Ova and Parasite | F in SAF |
| Fecal Ova and Parasites with *Giardia* spp. PCR | SAF + fresh F |

**Sample Type Legend**
F = Feces

# Non-Human Primates Diagnostics

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Sample Information

### Sample Collection – PCR

- Sample Collection: 1 g or 1 mL of feces (approximate size of a marble); Fecal samples for PCR evaluation should be placed in individually labeled sterile polypropylene conical tubes. Alternatively, a Puritan fecal culture swab with liquid Cary-Blair media can be submitted. (Sample collection materials available from IDEXX BioAnalytics.)
- Sample 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 ship. For long-term storage, samples should be frozen.
- Sample Shipment: Place labeled sample tubes in insulated shipping box and ship overnight to our laboratory. Samples should be shipped on ice packs. Please include the submission paperwork inside the shipping box.

### Sample Collection – Microbiology

- Sample collection: 1 g or 1 mL of feces (approximate size of a marble) or fecal culture swab; Fecal samples for Microbiology should be obtained using a Puritan fecal culture swab with liquid Cary-Blair media (available from IDEXX BioAnalytics). Collect fecal material on the swab and securely place the swab in the transport medium. Alternatively, fresh fecal samples in a conical tube may be submitted for culture.
- Sample Shipment: Please send culture swabs or feces by overnight courier in an insulated container on ice packs, making sure to provide adequate insulation (e.g. bubble wrap, toweling, etc.) between ice packs and samples to prevent freezing. Please include the submission paperwork inside the shipping box.

### Sample Collection – PCR and Microbiology Combined Submission

- If submitting a sample for both PCR and microbiology services, follow the directions above for microbiology samples.

### Sample Collection for Parasitology

- Sample Collection: Feces for Ova & Parasite: (3–5 g or 3–5 mL of fecal material in SAF) A 5:1 ratio of fixative to feces in the SAF vial is recommended.
- Sample Shipment: Submit an additional, separate sample (e.g. one labeled for fecal PCR or Microbiology and one labeled for Parasitology). The sample for parasitology must be submitted in SAF vial. If submitting sample for Microbiology and Ova & Parasite, the SAF vial(s) must be packed in separate box.

## Turnaround Times

PCR results turnaround is 3 business days after receipt of samples. PDF results will be delivered by email and will be available via the secure, online client portal.

Culture results turnaround is 5 business days after receipt of samples. PDF results will be delivered by email and will be available via the secure, online client portal.

Parasitology results turnaround is 5 business days after receipt of samples. PDF results will be delivered by email and will be available via the secure, online client portal.

# IBA Animal Health Monitoring & Quarantine:

## flexible approaches for different needs

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

Soiled bedding Sentinels - SBS
Direct Colony Sampling - DCS
Exhaust Dust Testing - EDT
Sentinel Free Soiled Bedding - SFSB

### Animal Health Monitoring Solutions

| | Sample Type | Methodology | Recommended IBA test panels |
|---|---|---|---|
| **Routine health monitoring in IVC rack with filtration at rack level** Tecniplast, Allentown | Samples from animals: Opti-spots, Feces, Pelt swabs | Serology + PCR | Advantage Program Health Monitoring Panels (SBS / DCS) |
| | Environmental samples collected at rack level (e.g., Interceptor™, Sentinel™) | PCR | EDx Panels (EDT) |
| | Environmental samples collected at cage level (e.g., Filters, Swabs, Sentinel™) | PCR | EDx Panels (SFSB) |
| **Routine health monitoring in IVCs with filtration at cage level** (e.g., Thoren, Animal Care System, Innovive)**, open or filter top cages** | Samples from animals: Opti-spots, Feces, Pelt swabs | Serology + PCR (bacteria and parasites) | Advantage Program Health Monitoring Panels (SBS / DCS) |
| | Environmental samples collected at cage level (e.g., Filters, Swabs, Sentinel™) | PCR | EDx Panels (SFSB) |

### Quarantine Solutions

| | Sample Type | Methodology | Recommended IBA test panels |
|---|---|---|---|
| **Checking if animals are contagious** | Samples from animals: Feces, Pelt swabs, (optional oral swab) | PCR | Opti-XXpress Panels (DCS) |
| **Checking if animals are contagious and/or have been previously exposed to a pathogen** | Samples from animals: Feces, Pelt swabs, (optional oral swab) | PCR (viruses, bacteria and parasites) + Serology (viruses) | Advantage Program Health Monitoring Panels (DCS) |

# Mouse Advantage Health Monitoring

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

Performing **microbial screening of rodent colonies** can be optimally achieved either with a **combination of serology and PCR** (ideal for all housing system) or with a **PCR only** approach (ideal for quarantine screening, when testing immunodeficient animals without sentinels and when performing just Environmental Health Monitoring (EHM)).

**In quarantine, PCR panels can also be combined with serological panels** for more insights about past, not active infections when importing animals in your institution. 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.

| Serology | Sample type | Prevalent | Basic | Comprehensive | Comprehensive Plus | Global | FELASA quarterly | FELASA annual |
|---|---|---|---|---|---|---|---|---|
| Mouse hepatitis virus (MHV) | Opti-Spot® | • | • | • | • | • | • | • |
| Mouse parvovirus (MPV1-5) | Opti-Spot® | • | • | • | • | • | • | • |
| Minute virus of mice (MVM) | Opti-Spot® | • | • | • | • | • | • | • |
| Mouse 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 | Opti-Spot® | | • | • | • | • | | • |
| Mouse adenovirus 1 (MAV1) | Opti-Spot® | | | • | • | • | | • |
| Mouse adenovirus 2 (MAV2) | Opti-Spot® | | | • | • | • | | • |
| Polyomavirus | Opti-Spot® | | | • | • | • | | |
| *Encephalitozoon cuniculi* (ECUN) | Opti-Spot® | | | | • | • | | |
| *Filobacterium rodentium (CAR bacillus)* | Opti-Spot® | | | | • | • | | |
| *Clostridium piliforme* | Opti-Spot® | | | | • | • | | • |
| Mouse cytomegalovirus (MCMV) | Opti-Spot® | | | | • | • | | |
| K virus | Opti-Spot® | | | | | • | | |
| Hantaviruses (Hantaan & Seoul) | Opti-Spot® | | | | | • | | |
| Lactate dehydrogenase-elevating virus (LDV) | Opti-Spot® | | | | | • | | |
| Mouse thymic virus (MTV) | Opti-Spot® | | | | | • | | |
| **Feces** | | | | | | | | |
| Pinworms *(Syphacia muris, Syphacia obvelata, Aspiculuris tetraptera)* | F | • | • | • | • | • | • | • |
| *Helicobacter* spp. *H.bilis, H.ganmani, H.hepaticus, H.mastomyrinus, H.rodentium, H.typhlonius* | F | | • | • | • | • | • | • |
| *Tritrichomonas muris* | F | | | • | • | • | • | • |
| *Giardia muris* | F | | | • | • | • | • | • |
| *Spironucleus muris* | F | | | • | • | • | • | • |
| *Entamoeba muris* | F | | | • | • | • | • | • |
| *Salmonella* spp. | F | | | • | • | • | | • |
| *Pseudomonas aeruginosa* | F | | | • | • | • | | |
| *Citrobacter rodentium* | F | | | • | • | • | | • |
| *Rodentolepis nana* | F | | | | • | • | • | • |
| *Klebsiella pneumoniae* | F | | | | • | • | | |
| *Klebsiella oxytoca* | F | | | | • | • | | |
| *Proteus mirabilis* | F | | | | • | • | | |

**Sample Type Legend**
F = Feces DOS = Dry oral swab (PCR) FS = Fur swab

# Mouse Advantage Health Monitoring

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Cryptosporidium* spp. | F | | | | | • | | |
| *Campylobacter coli* | F | | | | | • | | |
| *Campylobacter jejuni* | F | | | | | • | | |
| Mouse kidney parvovirus (MKPV) | F | | | | | • | | |
| **Fur Swab** | | | | | | | | |
| Fur mites (*Myocoptes, Myobia, Radfordia* spp.) | FS | • | • | • | • | • | • | • |
| **Oral Swab or Feces** | | | | | | | | |
| *Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | DOS | | • | • | • | • | • | • |
| *Staphylococcus aureus* | DOS | | | • | • | • | | |
| *Streptococcus* ß-hemolytic Group A, B, C, G | DOS | | | • | • | • | • | • |
| *Streptococcus pneumoniae* | DOS | | | | • | • | • | • |
| *Bordetella hinzii / pseudohinzii* | DOS | | | | • | • | | |
| *Streptobacillus moniliformis* | DOS | | | | • | • | | • |
| *Bordetella bronchiseptica* | DOS | | | | | • | | |
| *Corynebacterium kutscheri* | DOS | | | | | • | | • |
| *Pasteurella multocida* | DOS | | | | | • | | |

# Rat Advantage Health Monitoring

| | | Prevalent | Basic | Comprehensive | Global | FELASA quarterly | FELASA annual |
|---|---|---|---|---|---|---|---|
| **Serology** | **Sample type** | | | | | | |
| Rat coronavirus (RCV)/Sialodacryoadenitis virus (SDAV) | Opti-Spot® | • | • | • | • | • | • |
| 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® | • | • | • | • | • | • |
| NS1 generic parvovirus | Opti-Spot® | • | • | • | • | • | • |
| Rat theilovirus (RTV) | Opti-Spot® | • | • | • | • | • | • |
| Pneumocystis carinii | Opti-Spot® | • | • | • | • | | • |
| Sendai virus (SEND) | Opti-Spot® | | • | • | • | | • |
| Pneumonia virus of mice (PVM) | Opti-Spot® | | • | • | • | • | • |
| *Mycoplasma pulmonis* | Opti-Spot® | | • | • | • | • | • |
| Reovirus 3 (REO3) | Opti-Spot® | | • | • | • | | • |
| Lymphocytic choriomeningitis virus (LCMV) | Opti-Spot® | | • | • | • | | |
| *Filobacterium rodentium (CAR bacillus)* | Opti-Spot® | | | • | • | | • |
| Hantaviruses (Hantaan & Seoul) | Opti-Spot® | | | • | • | | • |
| *Clostridium piliforme* | Opti-Spot® | | | • | • | • | • |
| Mouse adenovirus 1 (MAV1) | Opti-Spot® | | | • | • | | • |
| Mouse adenovirus 2 (MAV2) | Opti-Spot® | | | • | • | | • |
| *Encephalitozoon cuniculi* | Opti-Spot® | | | | • | | |
| Infectious diarrhea of infant rats (IDIR) | Opti-Spot® | | | | • | | |
| Rat polyomavirus 2 (RPyV2) | Opti-Spot® | | | | • | | |
| **Feces** | | | | | | | |
| Pinworms *(Syphacia muris, Syphacia obvelata, Aspiculuris tetraptera)* | F | • | • | • | • | • | • |
| *Helicobacter* spp. *H.bilis, H.ganmani, H.hepaticus, H.mastomyrinus, H.rodentium, H.typhlonius* | F | | • | • | • | • | • |
| **Feces** | | | | | | | |

# Rat Advantage Health Monitoring

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Tritrichomonas muris* | F | | | • | • | • | • |
| *Giardia muris* | F | | | • | • | • | • |
| *Spironucleus muris* | F | | | • | • | • | • |
| *Entamoeba muris* | F | | | • | • | • | • |
| *Salmonella* spp. | F | | | • | • | | • |
| *Pseudomonas aeruginosa* | F | | | • | • | | |
| *Klebsiella pneumoniae* | F | | | • | • | | |
| *Klebsiella oxytoca* | F | | | • | • | | |
| *Proteus mirabilis* | F | | | | • | | |
| *Campylobacter* coli | F | | | | • | | |
| *Campylobacter* jejuni | F | | | | • | | |
| Boone cardiovirus (BCV) | F | | | | • | | |
| *Cryptosporidium* spp. | F | | | | • | | |
| *Hymenolepis diminuta* | F | | | | • | • | • |
| *Rodentolepis nana* | F | | | | • | • | • |
| **Fur Swab** | | | | | | | |
| Fur mites *(Myocoptes, Myobia, Radfordia* spp.*)* | FS | • | • | • | • | • | • |
| **Dry Oral Swab or Feces** | | | | | | | |
| *Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | DOS | | • | • | • | • | • |
| *Staphylococcus aureus* | DOS | | | • | • | | |
| *Streptococcus* ß-hemolytic Group A, B, C, G | DOS | | | • | • | • | • |
| *Streptococcus pneumoniae* | DOS | | | • | • | • | • |
| *Streptobacillus moniliformis* | DOS | | | • | • | | • |
| *Bordetella bronchiseptica* | DOS | | | | • | | |
| *Corynebacterium kutscheri* | DOS | | | | • | | |
| *Pasteurella multocida* | DOS | | | | • | | |

**Sample Type Legend**
F = Feces DOS = Dry oral swab (PCR) FS = Fur swab

# Mouse Advantage Quarantine

| | | Q-Prevalent | Q-Basic | Q-Comprehensive | Q-Global |
|---|---|---|---|---|---|
| **Serology Panels** | **Sample type** | | | | |
| Mouse hepatitis virus (MHV) | Opti-Spot® | • | • | • | • |
| Mouse parvovirus (MPV1-5) | Opti-Spot® | • | • | • | • |
| Mouse minute virus (MVM) | Opti-Spot® | • | • | • | • |
| Mouse 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 | Opti-Spot® | | • | • | • |
| Mouse adenovirus 1 (MAV1) | Opti-Spot® | | • | • | • |
| Mouse adenovirus 2 (MAV2) | Opti-Spot® | | • | • | • |
| Polyomavirus | Opti-Spot® | | | • | • |
| *Encephalitozoon cuniculi* (ECUN) | Opti-Spot® | | | • | • |
| *Filobacterium rodentium (CAR bacillus)* | Opti-Spot® | | | • | • |
| *Clostridium piliforme* | Opti-Spot® | | | • | • |
| Mouse cytomegalovirus (MCMV) | Opti-Spot® | | | • | • |
| K virus | Opti-Spot® | | | | • |
| Hantaviruses (Hantaan & Seoul) | Opti-Spot® | | | | • |
| Lactate dehydrogenase-elevating virus (LDV) | Opti-Spot® | | | | • |
| Mouse thymic virus (MTV) | Opti-Spot® | | | | • |

# Mouse Advantage Quarantine

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

| | | Q-Prevalent | Q-Basic | Q-Comprehensive | Q-Global |
|---|---|---|---|---|---|
| **PCR Panels** | | | | | |
| **Feces** | **Sample type** | | | | |
| Mouse hepatitis virus (MHV) | F | • | • | • | • |
| Mouse parvovirus (MPV1-5) | F | • | • | • | • |
| Mouse minute virus (MVM) | F | • | • | • | • |
| Mouse norovirus (MNV) | F | • | • | • | • |
| Theiler's murine encephalomyelitis virus (TMEV) | F | • | • | • | • |
| Mouse rotavirus (MRV/EDIM) | F | • | • | • | • |
| Pinworms *(Syphacia muris, Syphacia obvelata, Aspiculuris tetraptera)* | F | • | • | • | • |
| *Helicobacter* spp. *H.bilis, H.ganmani, H.hepaticus, H.mastomyrinus, H.rodentium, H.typhlonius* | F | • | • | • | • |
| *Klebsiella pneumoniae* | F | | • | • | • |
| *Klebsiella oxytoca* | F | | • | • | • |
| *Tritrichomonas muris* | F | | | • | • |
| *Giardia muris* | F | | | • | • |
| *Spironucleus muris* | F | | | • | • |
| *Entamoeba muris* | F | | | • | • |
| *Salmonella* spp. | F | | | • | • |
| *Pseudomonas aeruginosa* | F | | | • | • |
| *Citrobacter rodentium* | F | | | • | • |
| *Rodentolepis nana* | F | | | | • |
| *Proteus mirabilis* | F | | | | • |
| *Cryptosporidium* spp. | F | | | | • |
| *Campylobacter* coli. | F | | | | • |
| *Campylobacter* jejuni | F | | | | • |

| | | | | | |
|---|---|---|---|---|---|
| **Fur Swab** | | | | | |
| Fur mites *(Myocoptes, Myobia, Radfordia* spp.*)* | FS | • | • | • | • |
| **Dry Oral Swab or Feces** | | | | | |
| *Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | DOS | | • | • | • |
| *Bordetella bronchiseptica* | DOS | | | • | • |
| *Corynebacterium kutscheri* | DOS | | | • | • |
| *Streptococcus* ß-hemolytic Group A, B, C, G | DOS | | | • | • |
| *Streptobacillus moniliformis* | DOS | | | • | • |
| *Mycoplasma pulmonis* | DOS | | | | • |
| *Streptococcus pneumoniae* | DOS | | | | • |
| *Staphylococcus aureus* | DOS | | | | • |
| *Bordetella hinzii / pseudohinzii* | DOS | | | | • |
| *Pasteurella multocida* | DOS | | | | • |

# Rat Advantage Quarantine

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

| | | Q-Prevalent | Q-Basic | Q-Comprehensive | Q-Global |
|---|---|---|---|---|---|
| **Serology Panels** | **Sample type** | | | | |
| Rat coronavirus (RCV)/Sialodacryoadenitis virus (SDAV) | Opti-Spot® | • | • | • | • |
| 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® | • | • | • | • |
| Pneumocystis carinii | Opti-Spot® | • | • | • | • |
| Sendai virus (SEND) | Opti-Spot® | | • | • | • |
| Pneumonia virus of mice (PVM) | Opti-Spot® | | • | • | • |
| *Mycoplasma pulmonis* | Opti-Spot® | | • | • | • |
| Reovirus 3 (REO3) | Opti-Spot® | | • | • | • |
| Lymphocytic choriomeningitis virus (LCMV) | Opti-Spot® | | • | • | • |
| *Filobacterium rodentium (CAR bacillus)* | Opti-Spot® | | | • | • |
| Hantaviruses (Hantaan & Seoul) | Opti-Spot® | | | • | • |
| *Clostridium piliforme* | Opti-Spot® | | | • | • |
| Mouse adenovirus 1 (MAV1) | Opti-Spot® | | | • | • |
| Mouse adenovirus 2 (MAV2) | Opti-Spot® | | | • | • |
| *Encephalitozoon cuniculi* | Opti-Spot® | | | | • |
| Infectious diarrhea of infant rats (IDIR) | Opti-Spot® | | | | • |
| **PCR Panels** | | | | | |
| **Feces** | | | | | |
| Rat coronavirus (RCV)/Sialodacryoadenitis virus (SDAV) | F | • | • | • | • |
| 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 | • | • | • | • |
| Pinworms *(Syphacia muris, Syphacia obvelata, Aspiculuris tetraptera)* | F | • | • | • | • |
| *Helicobacter* spp. *H.bilis, H.ganmani, H.hepaticus, H.mastomyrinus, H.rodentium, H.typhlonius* | F | • | • | • | • |
| *Spironucleus muris* | F | | | • | • |
| *Klebsiella pneumoniae* | F | | | • | • |
| *Klebsiella oxytoca* | F | | | • | • |
| *Clostridium piliforme* | F | | | • | • |
| *Pseudomonas aeruginosa* | F | | | • | • |
| *Salmonella* spp. | F | | | • | • |
| *Tritrichomonas muris* | F | | | | • |
| *Giardia muris* | F | | | | • |
| *Entamoeba muris* | F | | | | • |
| *Cryptosporidium* spp. | F | | | | • |
| *Hymenolepis diminuta* | F | | | | • |
| *Proteus mirabilis* | F | | | | • |
| *Rodentolepis nana* | F | | | | • |
| *Campylobacter* coli | F | | | | • |
| *Campylobacter* jejuni | F | | | | • |
| Boone cardiovirus (BCV) | F | | | | • |
| **Fur Swab** | | | | | |
| Fur mites *(Myocoptes, Myobia, Radfordia* spp.*)* | | • | • | • | • |
| **Dry Oral Swab or Feces** | | | | | |
| *Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | DOS | | • | • | • |
| *Staphylococcus aureus* | DOS | | | • | • |
| *Bordetella bronchiseptica* | DOS | | | • | • |
| *Corynebacterium kutscheri* | DOS | | | • | • |
| *Streptococcus* ß-hemolytic Group A, B, C, G | DOS | | | • | • |
| *Streptococcus pneumoniae* | DOS | | | • | • |
| *Streptobacillus moniliformis* | DOS | | | • | • |
| *Mycoplasma pulmonis* | DOS | | | | • |
| *Filobacterium rodentium (CAR bacillus)* | DOS | | | | • |

# Mouse Opti-XXpress/ EDx Panel

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

| PCR Panels | Sample type | Prevalent | Basic | Comprehensive | Global |
|---|---|---|---|---|---|
| **Bacteria - Respiratory** | | | | | |
| *Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | F, DOS, E | ● | ● | ● | ● |
| *Mycoplasma pulmonis* | F, DOS, E | | ● | ● | ● |
| *Staphylococcus aureus* | F, DOS, E | | | ● | ● |
| *Streptococcus* ß-hemolytic Group A, B, C, G | F, DOS, E | | | ● | ● |
| *Bordetella bronchiseptica* | F, DOS, E | | | ● | ● |
| *Bordetella hinzii / pseudohinzii* | F, DOS, E | | | | ● |
| *Corynebacterium kutscheri* | F, DOS, E | | | | ● |
| *Streptobacillus moniliformis* | F, DOS, E | | | | ● |
| *Streptococcus pneumoniae* | F, DOS, E | | | | ● |
| Filobacterium rodentium (CAR bacillus) | F, DOS, E | | | | ● |
| **Bacteria - Enteric** | | | | | |
| *Helicobacter* spp. *H.bilis, H.ganmani, H.hepaticus, H.mastomyrinus, H.rodentium, H.typhlonius* | F, E | ● | ● | ● | ● |
| *Klebsiella oxytoca* | F, E | | ● | ● | ● |
| *Klebsiella pneumoniae* | F, E | | ● | ● | ● |
| *Salmonella* spp. | F, E | | ● | ● | ● |
| *Citrobacter rodentium* | F, E | | | ● | ● |
| *Clostridium piliforme* | F, E | | | ● | ● |
| *Pseudomonas aeruginosa* | F, E | | | ● | ● |
| *Campylobacter coli* | F, E | | | | ● |
| *Campylobacter jejuni* | F, E | | | | ● |
| *Proteus mirabilis* | F, E | | | | ● |
| **Bacteria - Skin** | | | | | |
| *Corynebacterium bovis* | FS, E | | | | ● |
| *Corynebacterium spp. (HAC2)* | FS, E | | | | ● |
| *Staphylococcus xylosus* | FS, E | | | | ● |
| **Fungi** | | | | | |
| *Pneumocystis* spp. | DOS, E | | | | ● |

| Viruses | | Prevalent | Basic | Comprehensive | Global |
|---|---|---|---|---|---|
| Mouse hepatitis virus (MHV) | F, E | ● | ● | ● | ● |
| Mouse minute virus (MVM) | F, E | ● | ● | ● | ● |
| Mouse parvovirus (MPV1-5) | F, E | ● | ● | ● | ● |
| Mouse norovirus (MNV) | F, E | ● | ● | ● | ● |
| Theiler's murine encephalomyelitis virus (TMEV) | F, E | ● | ● | ● | ● |
| Mouse rotavirus (MRV/EDIM) | F, E | ● | ● | ● | ● |
| Mouse adenovirus (MAV1, MAV2) | F, E | | | ● | ● |
| Mouse kidney parvovirus (MKPV) | F, E | | | | ● |
| Reovirus (REO3) | F, E | | | | ● |
| Pneumonia virus of mice (PVM) | F, E | | | | ● |
| Sendai virus (SEND) | F, E | | | | ● |
| Ectromelia | F, E | | | | ● |
| Hantaan virus | F, E | | | | ● |
| Lymphocytic choriomeningitis virus (LCMV) | F, E | | | | ● |
| **Parasites** | | | | | |
| Pinworms *(Syphacia obvelata, Syphacia muris, Aspiculuris tetraptera)* | F, E | ● | ● | ● | ● |
| Fur Mites *(Myocoptes, Myobia and Radfordia* spp.*)* | FS, E | ● | ● | ● | ● |
| *Spironucleus muris* | F, E | ● | ● | ● | ● |
| *Entamoeba muris* | F, E | ● | ● | ● | ● |
| *Tritrichomonas muris* | F, E | | | ● | ● |
| *Cryptosporidium* spp. | F, E | | | | ● |
| *Giardia muris* | F, E | | | | ● |
| *Demodex* | F, E | | | | ● |
| *Ornithonyssus* | FS, F, E | | | | ● |

# Rat Opti-XXpress/ EDx Panels

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

| PCR Panels | Sample type | Prevalent | Basic | Comprehensive | Global |
|---|---|---|---|---|---|
| **Bacteria - Respiratory** | | | | | |
| *Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | F, DOS, E | • | • | • | • |
| *Mycoplasma pulmonis* | F, DOS, E | | • | • | • |
| *Staphylococcus aureus* | F, DOS, E | | | • | • |
| *Streptococcus* ß-hemolytic Group A, B, C, G | F, DOS, E | | | • | • |
| *Bordetella bronchiseptica* | F, DOS, E | | | | • |
| *Corynebacterium kutscheri* | F, DOS, E | | | | • |
| *Streptobacillus moniliformis* | F, DOS, E | | | | • |
| *Streptococcus pneumoniae* | F, DOS, E | | | | • |
| *Filobacterium rodentium (CAR bacillus)* | F, DOS, E | | | | • |
| **Bacteria - Enteric** | | | | | |
| *Helicobacter* spp. *H.bilis, H.ganmani, H.hepaticus, H.mastomyrinus, H.rodentium, H.typhlonius* | F, E | • | • | • | • |
| *Klebsiella oxytoca* | F, E | | • | • | • |
| *Klebsiella pneumoniae* | F, E | | • | • | • |
| *Salmonella* spp. | F, E | | • | • | • |
| *Clostridium piliforme* | F, E | | | • | • |
| *Pseudomonas aeruginosa* | F, E | | | • | • |
| *Campylobacter* coli | F, E | | | | |
| *Campylobacter* jejuni | F, E | | | | |
| *Proteus mirabilis* | F, E | | | | • |
| **Bacteria - Skin** | | | | | |
| *Staphylococcus xylosus* | FS, E | | | | • |
| **Fungi** | | | | | |
| *Pneumocystis* spp. | DOS, E | | | | • |

| Viruses | | Prevalent | Basic | Comprehensive | Global |
|---|---|---|---|---|---|
| Rat coronavirus (RCV)/Sialodacryoadenitis virus (SDAV) | F, E | • | • | • | • |
| Rat parovirus (RPV) | F, E | • | • | • | • |
| Kilham's rat virus (KRV) | F, E | • | • | • | • |
| Rat minute virus (RMV) | F, E | • | • | • | • |
| Toolan's H-1 virus (H-1) | F, E | • | • | • | • |
| Rat theilovirus (RTV) | F, E | • | • | • | • |
| Boone cardiovirus (BCV) | F, E | | | • | • |
| Mouse adenovirus (MAV1, MAV2) | F, E | | | • | • |
| Reovirus (REO3) | F, E | | | | • |
| Pneumonia virus of mice (PVM) | F, E | | | | • |
| Sendai virus (SEND) | F, E | | | | • |
| Seoul virus | F, E | | | | • |
| Rat Polyomavirus (RpyV2) | F, E | | | | • |
| **Parasites** | | | | | |
| Pinworms *(Syphacia obvelata, Syphacia muris, Aspiculuris tetraptera)* | F, E | • | • | • | • |
| Fur Mites *(Myocoptes, Myobia and Radfordia* spp.*)* | FS, E | • | • | • | • |
| *Spironucleus muris* | F, E | • | • | • | • |
| *Entamoeba muris* | F, E | • | • | • | • |
| *Tritrichomonas muris* | F, E | | | • | • |
| *Cryptosporidium* spp. | F, E | | | | • |
| *Giardia* spp. | F, E | | | | • |
| *Demodex* | F, E | | | | • |
| *Ornithonyssus* | FS, F, E | | | | • |

# Mouse and Rat Health Monitoring

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Other Mouse and Rat PCR Panels

| Test name and components | Sample type(s) |
|---|---|
| **Parvovirus Mouse PCR**<br>MPV 1-5, MVM | F or E |
| **Parvovirus Plus Mouse PCR**<br>MPV 1-5, MVM, MKPV | F or E |
| **Fecal A Mouse PCR**<br>MPV 1-5, MVM, MHV, MNV, *Helicobacter* spp., Pinworms | F |
| **Fecal B Mouse PCR**<br>MPV 1-5, MVM, MHV, MNV, TMEV, EDIM, *Helicobacter* spp., Pinworms | F |
| **Fecal C Mouse PCR**<br>MPV 1-5, MVM, MHV, MNV, TMEV, EDIM, *Helicobacter* spp., Pinworms, *Citrobacter rodentium, Clostridium piliforme, Salmonella spp, Klebsiella oxytoca, Klebsiella pneumoniae, Pseudomonas aeruginosa*, enteric Protozoa | F |
| **Parvovirus Rat PCR**<br>RPV, RMV, KRV, H-1 | F or E |
| **Fecal Rat PCR**<br>RPV, RMV, KRV, H-1, RTV, *Helicobacter* spp., Pinworms | F |
| **EDX Parasite PCR**<br>Fur mites, Pinworms, *Spironucleus muris, Entamoeba muris, Tritrichomonas muris, Giardia* spp., *Ornithonyssus* sp., *Demodex musculi* | E |
| **EDx Primary PCR**<br>Fur mites, Pinworms, *Spironucleus muris, Entamoeba muris, Tritrichomonas muris, Giardia* spp, *Helicobacter* spp., *H.bilis, H.hepaticus, H.rodentium, H.typhlonius, H.ganmani, H.mastomyrinus, Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | E |
| **Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) Panel**† | F or DOS |

| Test name and components | Sample type(s) |
|---|---|
| **Helicobacter PCR**<br>*Helicobacter* spp., *H.bilis, H.hepaticus, H.rodentium, H.typhlonius, H.ganmani, H.mastomyrinus* | F or E |
| **Pinworm / Fur Mite PCR**<br>*Syphacia obvelata, Syphacia muris, Aspiculuris tetraptera, Myocoptes, Myobia and Radfordia* spp. | F or E |
| **Pinworm / Fur Mite / Helicobacter spp. PCR**<br>*Syphacia obvelata, Syphacia muris, Aspiculuris tetraptera, Myocoptes, Myobia and Radfordia* spp., *Helicobacter* spp., *H.bilis, H.hepaticus, H.rodentium, H.typhlonius, H.ganmani, H.mastomyrinus* | F or E |
| **Protozoa PCR**<br>*Entamoeba muris, Giardia muris, Spironucleus muris, Tritrichomonas muris, Chilomastix* spp. | F or E |
| **Skin PCR**<br>Fur mites, Dermatophytes, *Demodex musculi, Ornithonyssus* spp., *Staphylococcus aureus, Staphylococcus xylosus, Corynebacterium bovis, Corynebacterium* spp. (HAC2) | PS |
| **Dermatophytes PCR**<br>*Microsporum* spp., *Trichophyton* spp. | Skin brush |
| **Opportunistic Bacteria Mouse PCR**<br>*Klebsiella oxytoca, Klebsiella pneumoniae, Pseudomonas aeruginosa, Proteus mirabilis, Staphylococcus aureus, Bordetella bronchiseptica, Filobacterium rodentium* (CAR *bacillus*) | F, DOS or F |
| **Opportunistic Bacteria Rat PCR**<br>*Klebsiella oxytoca, Klebsiella pneumoniae, Pseudomonas aeruginosa, Proteus mirabilis, Staphylococcus aureus, Bordetella bronchiseptica, Corynebacterium kutscheri* | F, DOS or F |

* not recommended

# Other Rodents and Rabbit Health Monitoring

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

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

| | Sample type | Basic | Comprehensive |
|---|---|---|---|
| Guinea pig adenovirus (GPADV) | OptiSpot® | | ● |
| Parainfluenza virus 3 (PI3) | OptiSpot® | ● | ● |
| Sendai virus (SEND) | OptiSpot® | ● | ● |
| Guinea pig cytomegalovirus (GPCMV) | OptiSpot® | | ● |
| *Encephalitozoon cuniculi* (ECUN) | OptiSpot® | ● | ● |
| *Clostridium piliforme* | OptiSpot® | ● | ● |
| Lymphocytic choriomeningitis virus (LCMV) | OptiSpot® | ● | ● |
| Pneumonia virus of mice (PVM) | OptiSpot® | ● | ● |
| Simian virus 5 (SV5) | OptiSpot® | | ● |

## Guinea Pig PCR Panels to be combined with Serology

| | Sample type(s) | Basic | Comprehensive | Global |
|---|---|---|---|---|
| *Bordetella bronchiseptica* | DOS | ● | ● | ● |
| ß-hemolytic *Streptococci* Group A, B, C, G | DOS | | ● | ● |
| *Corynebacterium kutscheri* | DOS | | | ● |
| *Streptococcus pneumoniae* | DOS | ● | ● | ● |
| *Streptobacillus moniliformis* | DOS | | | ● |
| *Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | DOS | | | ● |
| *Chlamydia* spp. | F | | | ● |
| *Salmonella* spp. | F | ● | ● | ● |
| *Campylobacter coli* | F | | | ● |
| *Campylobacter jejuni* | F | | | ● |
| *Cryptosporidium* spp. | F | | | ● |
| *Helicobacter* spp., *H. bilis, H. hepatics* | F | | | ● |
| *Lawsonia intracellularis* | F | | | ● |
| *Pasteurella multocida* | DOS | | | ● |
| Dermatophytes | PS | | | ● |

## Guinea Pig Parasitology for Health Monitoring combined with Serology and PCR

| | Sample type(s) | Basic | Comprehensive | Global |
|---|---|---|---|---|
| Endoparasites Guinea Pig - Fecal Flotation | F | ● | ● | ● |
| Ectoparasites Guinea Pig - Microscopic Examination | Skin Scrape | ● | ● | ● |
| Ectoparasites Guinea Pig - Microscopic Examination | Fur Pluck | ● | ● | ● |

# Other Rodents and Rabbit Health Monitoring

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Hamster Serology Panels

| | Sample type | Clinical | Comprehensive | Global |
|---|---|---|---|---|
| Lymphocytic choriomeningitis virus (LCMV) | OptiSpot® | • | • | • |
| Sendai virus (SEND) | OptiSpot® | • | • | • |
| *Clostridium piliforme* | OptiSpot® | • | • | • |
| Pneumonia virus of mice (PVM) | OptiSpot® | | • | • |
| Simian virus 5 (SV5) | OptiSpot® | | • | • |
| *Encephalitozoon cuniculi* (ECUN) | OptiSpot® | | • | • |
| Reovirus 3 (REO3) | OptiSpot® | | • | • |
| Hamster parvovirus (HaPV) | OptiSpot® | | | • |
| Hamster polyomavirus (HaPyV) | OptiSpot® | | | • |
| Group A rotaviruses (MRV, EDIM) | OptiSpot® | | | • |
| Mouse adenovirus 1 (MAV1) | OptiSpot® | | | • |
| Mouse adenovirus 2 (MAV2) | OptiSpot® | | | • |

## Hamster PCR Panels to be combined with Serology

| | Sample type(s) | Clinical | Comprehensive | Global |
|---|---|---|---|---|
| *Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | DOS | • | • | • |
| *Corynebacterium kutscheri* | DOS | | • | • |
| *Bordetella bronchiseptica* | DOS | | | • |
| ß-hemolytic *Streptococci* Group A, B, C, G | DOS | | | • |
| Filobacterium rodentium (CAR bacillus) | DOS | | | • |
| *Streptococcus pneumoniae* | DOS | | | • |
| *Pasteurella multocida* | DOS | | | • |
| *Helicobacter* spp., *H. bilis, H. hepatics* | F | | • | • |
| *Salmonella* spp. | F | | • | • |
| *Campylobacter coli* | F | | | • |
| *Campylobacter jejuni* | F | | | • |
| *Lawsonia intracellularis* | F | | | • |
| *Cryptosporidium* spp. | F | • | • | • |
| *Entamoeba muris* | F | • | • | • |
| *Giardia muris* | F | • | • | • |
| *Spironucleus muris* | F | • | • | • |
| Dermatophytes | Skin Brush | • | • | • |

## Hamster Parasitology for Health Monitoring combined with Serology and PCR

| | Sample type(s) | Clinical | Comprehensive | Global |
|---|---|---|---|---|
| Other Endoparasites Hamster - Fecal Flotation | F | • | • | • |
| Ectoparasites Hamster - Microscopic Examination | Skin Scrape | • | • | • |
| Ectoparasites Hamster - Microscopic Examination | Fur Pluck | • | • | • |

# Other Rodents and Rabbit Health Monitoring

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Rabbit Serology Panels

| | Sample type(s) | Comprehensive |
|---|---|---|
| Rotavirus group A (ROTA) | OptiSpot® | • |
| *Encephalitozoon cuniculi* (ECUN) | OptiSpot® | • |
| *Clostridium piliforme* | OptiSpot® | • |
| Cilia-associated respiratory *bacillus* (CARB) | OptiSpot® | • |
| *Treponema paraluiscuniculi* | OptiSpot® | • |

## Rabbit PCR Panels to be combined with Serology

| | Sample type(s) | Comprehensive | Global |
|---|---|---|---|
| *Bordetella bronchiseptica* | DOS | • | • |
| *Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | DOS | | • |
| *Pasteurella multocida* | DOS | • | • |
| *Salmonella* spp. | F | • | • |
| *Clostridium difficile* | F | | • |
| *Helicobacter* spp. | F | | • |
| *Lawsonia intracellularis* | F | | • |
| *Cryptosporidium* spp. | F | | • |
| *Giardia* spp. | F | | • |
| *Dermatophytes* | Skin Brush | | • |

## Rabbit Parasitology for Health Monitoring combined with Serology and PCR

| | Sample type(s) | Comprehensive | Global |
|---|---|---|---|
| Other Endoparasites Rabbit - Fecal Floation | F | • | • |
| Ectoparasites Rabbit - Microscopic Examination | Skin Scrape | • | • |
| Ectoparasites Rabbit - Microscopic Examination | Fur Pluck | • | • |
| Ectoparasites Rabbit - Microscopic Examination | Ear Swab | • | • |

# Other Rodents and Rabbit Health Monitoring

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Chinchilla Serology Panels

| | Sample type | Prevalvent | Comprehensive |
|---|---|---|---|
| *Encephalitozoon cuniculi* (ECUN) | OptiSpot® | | ● |
| Lymphocytic choriomeningitis virus (LCMV) | OptiSpot® | ● | ● |
| *Toxoplasma gondii* | OptiSpot® | | ● |
| Sendai virus (SEND) * | OptiSpot® | | |

## Chinchilla PCR Panels to be combined with Serology

| | Sample type(s) | Prevalvent | Comprehensive | Global |
|---|---|---|---|---|
| *Streptococcus pneumoniae* | DOS | ● | ● | ● |
| ß-hemolytic *Streptococci* Group A, B, C, G | DOS | ● | ● | ● |
| *Klebsiella pneumoniae* | DOS | | ● | ● |
| *Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | DOS | | ● | ● |
| *Pasteurella multocida* | DOS | | ● | ● |
| *Bordetella pseudohinzii/hinzii* | DOS | | ● | ● |
| *Bordetella bronchiseptica* | DOS | | ● | ● |
| *Staphylococcus aureus* | DOS | | ● | ● |
| *Salmonella* spp. | F | | ● | ● |
| *Campylobacter coli* | F | | ● | ● |
| *Campylobacter jejuni* | F | | ● | ● |
| *Pseudomonas aeruginosa* | F | | ● | ● |
| *Clostridium perfringens* (alpha toxin and enterotoxin) | F | | | ● |
| *Yersinia pseudotuberculosis* | F | | | ● |
| *Yersinia enterocolitica* | F | | | ● |
| *Rodentolepis nana* | F | | | ● |
| Pinworms *(Syphacia obvelata, Syphacia muris, Aspiculuris tetraptera)* * | F | | | |
| *Cryptosporidium* spp. | F | ● | ● | ● |
| *Giardia* spp. *(assemblages A&B)* | F | ● | ● | ● |
| *Eimeria* spp. | F | ● | ● | ● |
| *Dermatophytes* | PS | ● | ● | ● |
| Fur mite *(Myocoptes, Myobia spp., Radfordia spp.)* * | PS | | | |

## Chinchilla Parasitology for Health Monitoring combined with Serology and PCR

| | Sample type(s) | Prevalvent | Comprehensive | Global |
|---|---|---|---|---|
| Other Endoparasites Chinchilla - Fecal Floation | F | ● | ● | ● |
| Other Endoparasites Chinchilla - Tape Test | Tape test | ● | ● | ● |

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

# Other Rodents and Rabbit Health Monitoring

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Other Rodent PCR Panels

| Test name and components | Sample type(s) |
|---|---|
| **Opportunistic Bacteria Guinea Pig / Hamster PCR**<br>Klebsiella oxytoca, Klebsiella pneumoniae, Proteus mirabilis, Pseudomonas aeruginosa, Staphylococcus aureus | F, DOS or F |
| **Acute Disease Guinea Pig PCR**<br>GPAdV, Bordetella bronchiseptica, Salmonella spp., ß-hemolytic Streptococci Group C | F, DOS |
| **Diarrhea Hamster PCR**<br>Clostridium perfringens (Alpha Toxin & Enterotoxin), Clostridium difficile (Toxin A & Toxin B), Helicobacter spp. (H. bilis & H. hepaticus) Salmonella spp., Lawsonia intracellularis, Campylobacter coli/jejeuni, Cryptosporidium spp. | F |
| **Respiratory Hamster PCR**<br>Pasteurella pneumotropica Biotype Heyl & Jawetz (Rodentibacter heylii, Rodentibacter pneumotropicus), Streptococcus pneumoniae, ß-hemolytic Streptococci Group B, Mycoplasma pulmonis, Bordetella bronchiseptica, Sendai virus | DOS or F |

**Sample Type Legend**
F = Feces T = Tissue DOS = Dry oral swab (PCR)

# Serology Testing Services

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

For the greatest ease, efficiency, and accuracy, our animal health monitoring serology diagnostics are spot on:

Opti-Spot® Dried Blood Spot sampling technology

- Decrease sampling and prep time
- Reduce shipping costs
- Faster and more accurate results

Get the highest level of diagnostic accuracy from just a simple drop of blood, with results in 24–36 hours on par with the kind of expert analysis and exceptional service you would expect from the leader in animal health monitoring.

Expect a more complete picture from just a drop of blood.

## Mouse Serology Panels

| | Sample type | Parvovirus | Primary | Clinical | Basic | Comprehensive | Comprehensive Plus | Global | FELASA Quarterly | FELASA Annual |
|---|---|---|---|---|---|---|---|---|---|---|
| MPV 1-5 | Opti-Spot® | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| MVM | Opti-Spot® | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| MHV | Opti-Spot® | | ● | ● | ● | ● | ● | ● | ● | ● |
| MNV | Opti-Spot® | | ● | ● | ● | ● | ● | ● | ● | ● |
| TMEV | Opti-Spot® | | ● | ● | ● | ● | ● | ● | ● | ● |
| MRV/EDIM | Opti-Spot® | | ● | ● | ● | ● | ● | ● | ● | ● |
| Sendai virus | Opti-Spot® | | | ● | ● | ● | ● | ● | | ● |
| *Mycoplasma pulmonis* | Opti-Spot® | | | ● | ● | ● | ● | ● | | ● |
| PVM | Opti-Spot® | | | | ● | ● | ● | ● | | ● |
| REO3 | Opti-Spot® | | | | ● | ● | ● | ● | | ● |
| LCMV | Opti-Spot® | | | | ● | ● | ● | ● | | ● |
| Ectromelia virus | Opti-Spot® | | | | ● | ● | ● | ● | | ● |
| MAV1 | Opti-Spot® | | | | | ● | ● | ● | | ● |
| MAV2 | Opti-Spot® | | | | | ● | ● | ● | | ● |
| Mouse polyomavirus | Opti-Spot® | | | | | ● | ● | ● | | |
| *Encephalitozoon cuniculi* | Opti-Spot® | | | | | | | ● | ● | |
| *Filobacterium rodentium* (CAR *bacillus*) | Opti-Spot® | | | | | | | ● | ● | |
| *Clostridium piliforme* | Opti-Spot® | | | | | | | ● | ● | ● |
| MCMV | Opti-Spot® | | | | | | | ● | ● | |
| K virus | Opti-Spot® | | | | | | | | ● | |
| Hantaviruses (Hantaan & Seoul) | Opti-Spot® | | | | | | | | ● | |
| LDV | Opti-Spot® | | | | | | | | ● | |
| MTV | Opti-Spot® | | | | | | | | ● | |

## Rat Serology Panels

| | Sample type | Parvovirus | Primary | Clinical | Basic | Comprehensive | Global | FELASA Quarterly | FELASA Annual |
|---|---|---|---|---|---|---|---|---|---|
| RPV | Opti-Spot® | ● | ● | ● | ● | ● | ● | ● | ● |
| RMV | Opti-Spot® | ● | ● | ● | ● | ● | ● | ● | ● |
| KRV | Opti-Spot® | ● | ● | ● | ● | ● | ● | ● | ● |
| H-1 | Opti-Spot® | ● | ● | ● | ● | ● | ● | ● | ● |
| RTV | Opti-Spot® | | ● | ● | ● | ● | ● | ● | ● |
| RCV/SDAV | Opti-Spot® | | ● | ● | ● | ● | ● | ● | ● |
| *Pneumocystis carinii* | Opti-Spot® | | ● | ● | ● | ● | ● | | ● |
| Sendai virus | Opti-Spot® | | | ● | ● | ● | ● | | ● |
| PVM | Opti-Spot® | | | ● | ● | ● | ● | ● | ● |
| *Mycoplasma pulmonis* | Opti-Spot® | | | ● | ● | ● | ● | ● | ● |
| REO3 | Opti-Spot® | | | | ● | ● | ● | | ● |
| LCMV | Opti-Spot® | | | | ● | ● | ● | | |
| Filobacterium rodentium (CAR bacillus) | Opti-Spot® | | | | | ● | ● | | ● |
| Hantaviruses (Hantaan & Seoul) | Opti-Spot® | | | | | ● | ● | | ● |

**Sample Type Legend**
F = Feces T = Tissue DOS = Dry oral swab (PCR)

# Serology Testing Services

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Clostridium piliforme* | Opti-Spot® | | | | | • | • | • | • |
| MAV1 | Opti-Spot® | | | | | • | • | | • |
| MAV2 | Opti-Spot® | | | | | • | • | | • |
| *Encephalitozoon cuniculi* | Opti-Spot® | | | | | | • | | |
| IDIR | Opti-Spot® | | | | | | • | | |
| RPyV2 | Opti-Spot® | | | | | | • | | |

## Guinea Pig Serology Panels

| Serology panel | Sample type | Basic | Comprehensive | New: Global |
|---|---|---|---|---|
| Guinea pig adenovirus (GPADV) | 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 3 (REO3) | Opti-Spot® | | | • |
| *Toxoplasma gondii* | Opti-Spot® | | | • |
| *Mycoplasma pulmonis* | Opti-Spot® | | | • |

## Hamster Serology Panels

| Serology panel | Sample type | Clinical | Comprehensive | NEW: Global |
|---|---|---|---|---|
| Lymphocytic choriomeningitis virus (LCMV) | Opti-Spot® | • | • | • |
| Sendai virus | 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 3 (REO3) | Opti-Spot® | | • | • |
| Hamster parvovirus (HaPV) | Opti-Spot® | | | • |
| Hamster polyomavirus (HaPyV) | Opti-Spot® | | | • |
| Group A rotaviruses (MRV, EDIM) | Opti-Spot® | | | • |
| Mouse adenovirus 1 (MAV1) | Opti-Spot® | | | • |
| Mouse adenovirus 2 (MAV2) | Opti-Spot® | | | • |

# Serology Testing Services

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Rabbit Serology Panels

| Serology panel | Sample type | Comprehensive |
|---|---|---|
| Rotavirus group A (ROTA) | Opti-Spot® | • |
| *Encephalitozoon cuniculi (ECUN)* | Opti-Spot® | • |
| *Clostridium piliforme* | Opti-Spot® | • |
| Cilia-associated respiratory bacillus (CARB) | Opti-Spot® | • |
| *Treponema paraluiscuniculi* | Opti-Spot® | • |

## Chinchilla Serology Panels

| Serology panel | Sample type | Prevalvent | Comprehensive |
|---|---|---|---|
| *Encephalitozoon cuniculi* (ECUN) | Opti-Spot® | | • |
| Lymphocytic choriomeningitis virus (LCMV) | Opti-Spot® | • | • |
| *Toxoplasma gondii* | Opti-Spot® | | • |

# Individual Serology Assays

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

| Agent | Species |
|---|---|
| Cilia-associated respiratory *bacillus* (CARB) | Rabbit |
| Clostridium piliforme | Mouse, rat, hamster, guinea pig, rabbit |
| Ectromelia virus | Mouse |
| Mouse rotavirus (MRV/EDIM) | Mouse |
| Encephalitozoon cuniculi (ECUN) | Mouse, rat, hamster, guinea pig |
| Filobacterium rodentium (CAR bacillus) | Mouse, rat, hamster, guinea pig |
| Guinea pig adenovirus (GPADV) | Guinea pig |
| Guinea pig cytomegalovirus (GPCMV) | Guinea pig |
| Toolan's H-1 virus (H-1) | Rat |
| Hantaviruses (Hantaan & Seoul) | Rat, guinea pig |
| Infectious diarrhea of infant rats (IDIR) | Rat |
| K virus | Mouse |
| Kilham's rat virus (KRV) | Rat |
| Lactate dehydrogenase-elevating virus (LDV) | Mouse |
| Leptospira | Mouse, rat |
| Lymphocytic choriomeningitis virus (LCMV) | Mouse, rat, hamster, guinea pig, rabbit |
| Mouse adenovirus 1 (MAV1) (FL) | Mouse, rat, guinea pig |
| Mouse adenovirus 2 (MAV2) (K87) | Mouse, guinea pig |
| Mouse cytomegalovirus (MCMV) | Mouse |
| Mouse hepatitis virus (MHV) | Mouse, guinea pig |
| Mouse kidney parvovirus (MKPV) | Mouse |
| Mouse norovirus (MNV) | Mouse |
| Mouse parvovirus (MPV1-5) | Mouse |
| Mouse thymic virus (MTV) | Mouse |
| Mouse minute virus (MMV) | Mouse, guinea pig |

| Agent | Species |
|---|---|
| Mycoplasma pulmonis | Mouse, rat |
| Parainfluenza virus 3 (PI3) | Guinea pig |
| Pneumocystis carinii | Rat |
| Pneumocystis murina | Mouse |
| Mouse polyomavirus | Mouse |
| Pneumonia virus of mice (PVM) | Mouse, rat, hamster, guinea pig |
| Rat polyomavirus 2 (RPyV2) | Rat |
| Rat coronavirus (RCV)/Sialodacryoadenitis virus (SDAV) | Rat |
| Reovirus 3 (REO3) | Mouse, rat, hamster, guinea pig |
| Rat minute virus (RMV) | Rat |
| Rotavirus group A (ROTA) | Guinea pig, Rabbit |
| Rat parvovirus (RPV) | Rat |
| Rat theilovirus (RTV) | Rat |
| Severe acute respiratory syndrome coronavirus 2 (SARS-CoV 2) | |
| Sendai virus (SEND) | Mouse, rat, hamster, guinea pig, rabbit |
| Sin Nombre virus | Mouse, rat, guinea pig |
| Simian virus 5 (SV5) | Hamster, guinea pig, rabbit |
| Theiler's murine encephalomyelitis virus (TMEV) | Mouse |
| *Treponema paraluiscuniculi* | Rabbit |

# Individual Serology Assays

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## 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 in a standard overnight envelope shipped at ambient temperature.

*Refrain from pooling serum samples on OptiSpot(R) strips, a practice that can yield false negative results by dilution effect.*

### Serum

- Sample Collection: MFI2 requires only 0.2 $\mu$l of undiluted serum (1.0 $\mu$l 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 $\mu$l of undiluted (100 $\mu$l 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 and plasma 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 frozen 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 accession form for each species and serologic profile or group of test(s) requested.

## Turnaround Times

Serology results turnaround is 3 business days after receipt of samples. Results reports are delivered by email and are also available via the secure, online client portal.

# Individual PCR Assays and Preferred Specimen Type

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

| Agent | Preferred Specimen Type (italics = postmortem sample) | Species |
|---|---|---|
| **Viruses** | | |
| Boone cardiovirus (BCV) | Feces, environmental | Rat |
| Ectromelia virus (mouse poxvirus) | Feces, environmental, *skin lesion* | Mouse |
| Guinea pig adenovirus (GAV) | Feces, environmental, oral swab, *lung* | Guinea Pig |
| Guinea pig cytomegalovirus (GPCMV) | Feces, *spleen, salivary gland* | Guinea Pig |
| Hamster parvovirus (HaPV) | Feces, *mesenteric lymph nodes* | Hamster |
| Hamster polyomavirus | Feces, environmental, *lesioned organs* | Hamster |
| Hantaan virus | Feces, environmental, *kidney* | Mouse†, rat, guinea pig, hamster |
| K virus (Mouse pneumotropic virus) | Feces, environmental, *mesenteric lymph nodes* | Mouse |
| Kilham's rat virus (KRV) | Feces, environmental, *mesenteric lymph nodes, spleen* | Rat |
| Lactate dehydrogenase-elevating virus (LDEV) | Serum, *spleen* | Mouse |
| Lymphocytic choriomeningitis virus (LCMV) | Feces, environmental, *kidney* | Mouse |
| Minute virus of mice (MMV) | Feces, environmental, *mesenteric lymph nodes, spleen* | Mouse |
| Mouse adenovirus 1 (MAV1) | Feces, environmental, *mesenteric lymph nodes* | Mouse |
| Mouse adenovirus 2 (MAV2) | Feces, environmental, *intestine* | Mouse |
| Mouse cytomegalovirus 1 (mCMV1) | Feces, environmental, *spleen, salivary gland* | Mouse |
| Mouse cytomegalovirus 2 (mCMV2) | Feces, environmental, *spleen, salivary gland* | Mouse |
| Mouse hepatitis virus (MHV) | Feces, environmental, *mesenteric lymph nodes* | Mouse |
| Mouse Kidney Parvovirus (MKPV) | Feces, environmental, *kidney* | Mouse |
| Mouse parvovirus (MPV) | Feces, environmental, *mesenteric lymph nodes, spleen* | Mouse |
| Mouse rotavirus (EDIM) | Feces, environmental | Mouse |
| Mouse thymic virus (MTV) | Feces, environmental, oral swab, *salivary gland* | Mouse |
| Murine astrovirus 1 (MuAstV1) | Feces, environmental | Mouse |
| Murine norovirus (MNV) | Feces, environmental | Mouse |
| Murine polyomavirus | Feces, environmental, *skin* | Mouse |
| Pneumonia virus of mice (PVM) | Feces, environmental, oral swab, *lung* | Mouse |
| Rat coronavirus (RCV)/ Sialodacryoadenitis virus (SDAV) | Feces, environmental, oral swab, *Harderian gland* | Rat |
| Rat cytomegalovirus1 (rCMV1) | Feces, environmental, oral swab, *salivary gland* | Rat |
| Rat cytomegalovirus2 (rCMV2) | Feces, environmental, oral swab, *salivary gland* | Rat |
| Rat minute virus (RMV) | Feces, environmental, *mesenteric lymph nodes, spleen* | Rat |
| Rat parvovirus (RPV) | Feces, environmental, *mesenteric lymph nodes, spleen* | Rat |
| Rat polyomavirus 2 (RPyV2) | Feces, environmental, oral swab | Rat |
| Rat rotavirus (IDIR) | Feces, environmental | Rat |
| Rat theilovirus (RTV) | Feces, environmental, *intestine* | Rat |
| Respiratory enteric orphan virus 1, 2 and 3 (REO1, 2 and 3) | Feces, environmental, *intestine* | Mouse, rat, guinea pig, hamster |
| Sendai virus (SEND) | Feces, environmental, oral swab, *lung* | Mouse, rat, guinea pig, hamster |
| Seoul virus | Feces, environmental, *kidney* | Mouse†, rat |
| Sin Nombre virus | Feces, environmental, *kidney* | Mouse† |
| Theiler's murine encephalomyelitis virus (TMEV) | Feces, environmental | Mouse |
| Toolan's H-1 virus (H-1) | Feces, environmental, *mesenteric lymph nodes, spleen* | Rat |
| **Bacteria** | | |
| *Bordetella bronchiseptica* | Feces, environmental, oral swab, *trachea* | Mouse, guinea pig, rat, rabbit |
| *Bordetella hinzii; Bordetella pseudohinzii* | Feces, environmental, oral swab, *trachea* | Mouse |
| *Burkholderia gladioli* | Ear swab, bulla | Mouse, rat |
| *Citrobacter rodentium* | Feces, environmental, *colon* | Mouse, rabbit |

† mice are not susceptible species for the virus

# Individual PCR Assays and Preferred Specimen Type

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

| Agent | Preferred Specimen Type (italics = postmortem sample) | Species |
|---|---|---|
| *Campylobacter coli* | Feces, environmental | Mouse, guinea pig, hamster, rabbit, rat |
| *Campylobacter jejuni* | Feces, environmental | Mouse, guinea pig, hamster, rabbit, rat |
| *Chlamydia muridarum* | Feces, environmental | Mouse |
| *Clostridium piliforme (Tyzzer's disease)* | Feces, environmental | Mouse, rat, rabbit |
| *Corynebacterium bovis* | Feces, environmental, fur swab | Mouse, rat |
| *Corynebacterium* spp. (HAC2) | Feces, environmental, fur swab | Mouse |
| *Corynebacterium kutscheri* | Feces, environmental, oral swab | Mouse, hamster, rat |
| Cilia-associated respiratory *bacillus* (CARB) | Feces, environmental, oral swab, *trachea* | Rabbit |
| *Filobacterium rodentium* | Feces, environmental, oral swab, *trachea* | Mouse, rat, Hamster, guinea pig |
| *Helicobacter* spp. | Feces, environmental | Mouse, guinea pig, rabbit, rat |
| *Helicobacter bilis* | Feces, environmental | Mouse, rabbit, rat |
| *Helicobacter ganmani* | Feces, environmental | Mouse, rabbit, rat |
| *Helicobacter hepaticus* | Feces, environmental | Mouse, rabbit, rat |
| *Helicobacter mastomyrinus* | Feces, environmental | Mouse, rabbit, rat |
| *Helicobacter rodentium* | Feces, environmental | Mouse, rabbit, rat |
| *Helicobacter typhlonius* | Feces, environmental | Mouse, rabbit, rat |
| *Klebsiella oxytoca* | Feces, environmental | Mouse, rat |
| *Klebsiella pneumoniae* | Feces, environmental | Mouse, rat |
| *Lawsonia intracellularis* | Feces, environmental | Mouse, guinea pig, hamster, rat |
| *Leptospira* spp. | Feces, environmental | Mouse, rat |
| *Mycoplasma pulmonis* | Feces, environmental, oral swab | Mouse, rat |
| *Pasteurella multocida* | Feces, environmental, oral swab | Rat |
| *Proteus mirabilis* | Feces, environmental | Mouse, guinea pig, hamster, rat |
| *Pseudomonas aeruginosa* | Feces, environmental | Mouse, rat |
| *Rodentibacter heylii (Pasteurella pneumotropica Biotype Heyl)* | Feces, environmental, oral swab | Mouse, rat |
| *Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Jawetz)* | Feces, environmental, oral swab | Mouse, rat |
| *Salmonella enterica* | Feces, environmental | Mouse, guinea pig, hamster, rabbit, rat |
| *Segmented filamentous bacterium* | Feces, environmental | Mouse |
| *Staphylococcus aureus* | Feces, environmental, oral swab, fur swab/skin swab | Mouse, rat |
| *Staphylococcus xylosus* | Feces, environmental, oral swab, fur swab/skin swab | Mouse, rat |
| *Streptobacillus moniliformis* | Feces, environmental, oral swab | Mouse, rat |
| *Streptococcus*, β-hemolytic | Feces, environmental, oral swab | Mouse, rat |
| *Streptococcus pyogenes* (Group A) | Feces, environmental, oral swab | Mouse, rat |
| *Streptococcus agalactiae* (Group B) | Feces, environmental, oral swab | Mouse, rat |
| *Streptococcus equi subsp. zooepidemicus* (Group C) | Feces, environmental, oral swab | Mouse, rat |
| *Streptococcus canis* (Group G) | Feces, environmental, oral swab | Mouse, rat |
| *Streptococcus pneumoniae* | Feces, environmental, oral swab | Mouse, rat |
| *Treponema paraluis-cuniculi* | Genital swab | Rabbit |
| **Fungi** | | |
| *Encephalitozoon cuniculi* | Feces, *kidney* | Mouse, guinea pig, hamster, rabbit, rat |
| *Pneumocystis* spp. | Feces, environmental, oral swab, *lung* | Mouse, rat |
| **Endoparasites** | | |
| *Aspiculuris tetraptera* | Feces, environmental | Mouse, rat |
| *Chilomastix* spp. | Feces, environmental | Mouse, rat |
| *Cryptosporidium* spp. | Feces, environmental | Mouse, rat |
| *Eimeria* spp. | Feces, environmental | Mouse, rat, rabbit |
| *Entamoeba muris* | Feces, environmental | Mouse, rat |
| *Giardia muris* | Feces, environmental | Mouse, rat |
| *Hymenolepis diminuta* | Feces, environmental | Mouse, rat |
| *Rodentolepis nana* | Feces, environmental | Mouse, rat |
| *Spironucleus muris* | Feces, environmental | Mouse, rat |
| *Syphacia muris* | Feces, environmental | Mouse, rat |
| *Syphacia obvelata* | Feces, environmental | Mouse, rat |

# Individual PCR Assays and Preferred Specimen Type

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

| Agent | Preferred Specimen Type (italics = postmortem sample) | Species |
|---|---|---|
| *Tritrichomonas muris* | Feces, environmental | Mouse, rat |
| **Ectoparasites** | | |
| *Demodex musculi* | Pelt swab, environmental, feces | Mouse |
| *Myocoptes musculinus* | Pelt swab, environmental, feces | Mouse |
| *Ornithonyssus* spp. | Pelt swab, environmental, feces | Mouse, rat |
| *Radfordia affinis/Radfordia ensifera/Myobia musculi* | Pelt swab, environmental, feces | Mouse, rat |

## 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 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.
- 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.

### 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.
- Sample Handling & Storage: Pelt swab 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.

# Individual PCR Assays and Preferred Specimen Type

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

### 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: Oral swab 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.

### 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:

- 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.

- Sample Handling & Storage: 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.

### Turnaround Times

PCR results turnaround is 3 business days after receipt of samples. Results reports are delivered by email and are also available via the secure, online client portal.

# Necropsy Testing Services

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

Terminal Health Monitoring

- Standard profiles include a complete necropsy with serology and parasitology.
- Additional histopathology, microbiology, and PCR testing available.
- Fast, reliable results.

Experienced staff backed by world-class experts in animal health monitoring. IDEXX BioAnalytics provides a series of species-specific health monitoring and diagnostic necropsy profiles as part of a comprehensive program designed to identify microbial infections.

## Mouse Necropsy Profiles

| | Immunocompromised | Primary | Clinical | Basic | Comprehensive | Comprehensive Plus | Global |
|---|---|---|---|---|---|---|---|
| **Parasitology** | | | | | | | |
| Ectoparasite exam | ● | ● | ● | ● | ● | ● | ● |
| Endoparasite exam | ● | ● | ● | ● | ● | ● | ● |
| **Serology** | | Primary† | Clinical† | Basic† | Comprehensive† | Plus† | Global† |
| Microbiology | | Select panel‡ | Select panel‡ | Select panel‡ | Select panel‡ | Select panel‡ | Select panel‡ |

## Mouse Necropsy Microbiology Panels

| | Panel 1 | Panel 2 | Panel 3 | Panel 4 |
|---|---|---|---|---|
| *Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | ● | ● | ● | ● |
| *Mycoplasma pulmonis* | ● | ● | ● | ● |
| *Salmonella enterica* | ● | ● | ● | ● |
| *Pseudomonas aeruginosa* | | ● | ● | ● |
| *Proteus mirabilis* | | | ● | ● |
| *Citrobacter rodentium* | | | ● | ● |
| *Staphylococcus aureus* | | | ● | ● |
| *Corynebacterium kutscheri* | | | | ● |
| *Streptococcus* β-hemolytic *S.pyogenes* (Group A), *S.agalactiae* (Group B), *S.equi subsp. zooepidemicus* (Group C), *S. canis* (Group D) | | | | ● |
| *Bordetella bronchiseptica* | | | | ● |
| *Pasteurella multocida* | | | | ● |
| *Streptobacillus moniliformis* | | | | ● |
| *Streptococcus pneumoniae* | | | | ● |
| *Klebsiella oxytoca* | | | | ● |
| *Klebsiella pneumoniae* | | | | ● |
| Lesioned organs | ● | ● | ● | ● |

† details of serology profiles see in serology testing services page 49
‡ select from microbiology panels; additional costs occur

# Necropsy Testing Services

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Rat Necropsy Profiles

| | Immunocompromised | Primary | Clinical | Basic | Comprehensive | Global |
|---|---|---|---|---|---|---|
| **Parasitology** | | | | | | |
| Ectoparasite exam | ● | ● | ● | ● | ● | ● |
| Endoparasite exam | ● | ● | ● | ● | ● | ● |
| **Serology** | | Primary† | Clinical† | Basic† | Comprehensive† | Global† |
| Microbiology | | Select panel‡ | Select panel‡ | Select panel‡ | Select panel‡ | Select panel‡ |

## Rat Necropsy Microbiology Panels

| | Panel 1 | Panel 2 | Panel 3 | Panel 4 |
|---|---|---|---|---|
| *P Rodentibacter heylii, Rodentibacter pneumotropicus (Pasteurella pneumotropica Biotype Heyl & Jawetz)* | ● | ● | ● | ● |
| *Mycoplasma pulmonis* | ● | ● | ● | ● |
| *Salmonella enterica* | ● | ● | ● | ● |
| *Streptococcus pneumoniae* | | ● | ● | ● |
| *Corynebacterium kutscheri* | | | ● | ● |
| *Pseudomonas aeruginosa* | | | ● | ● |
| *Streptococcus* β-hemolytic *S.pyogenes* (Group A), *S.agalactiae* (Group B), *S.equi subsp. zooepidemicus* (Group C), *S. canis* (Group D) | | | | ● |
| *Bordetella bronchiseptica* | | | | ● |
| *Klebsiella oxytoca* | | | | ● |
| *Klebsiella pneumoniae* | | | | ● |
| *Pasteurella multocida* | | | | ● |
| *Staphylococcus aureus* | | | | ● |
| *Streptobacillus moniliformis* | | | | ● |
| Lesioned organs | ● | ● | ● | ● |

† details of serology profiles see in serology testing services page 52
‡ select from microbiology/histopathology panels; additional costs occur

# Necropsy Testing Services

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Sample Information

Notification of live animal shipment prior to submission is recommended. Advanced scheduling will ensure that your animals arrive safely. Please notify us if the shipment is over 50 animals.

### Preparation for shipping live animals:

- Animal shipping boxes should be purchased from outside vendors, IDEXX BioAnalytics does not supply animal shipping boxes.
- Animals should be shipped with a gel pack for hydration and a small amount of food pellets in the box.
- Animals should be shipped with a good layer of bedding in the box.
- Animals should be noticeably identified for our lab; i.e. ear tags, or a mark on the tail with a permanent marker. Even with a separator in the box, animals should be identified to ensure animals are tested accurately.

### Animal Shipment:

- Clients will need to source their courier or shipping vendor of choice.
- Animals should be shipped Monday-Wednesday to arrive by Thursday at the latest to ensure animals are not held in transit over the weekend. Please ensure submission paperwork is affixed to the outside of the animal shipping box.

For further information on shipping live animals consult our CSS team.

## Turnaround Times

Results turnaround is 5 business days after receipt of samples, not including the addition of histology service add-ons. Results reports are delivered by email and are also available via the secure, online client portal.

# Microbiology Testing Services

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

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

| Agent |
|---|
| Individual Aerobic Culture for 1 Species |
| Individual Anaerobic Culture for 1 Species |
| Aerobic Culture and ID-Bacteria Only |
| Aerobic Culture and ID-Bacteria and Fungi |
| Anaerobic Culture and ID-Bacteria Only |
| Aerobic Culture and ID-Fungi 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)

| Agent |
|---|
| 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 |

# Microbiology Testing Services

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Environmental

| Agent |
|---|
| 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 |

## Sample Information

### Oral Swab Collection (for Microbiology Testing)

- Sample Collection: Obtain a small wire shaft culture swab with Aimies gel 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.
- Sample Handling & Storage: Please always keep sample refrigerated and only for a limited time before shipment.
- Sample Shipment: Securely place the swab in the transport medium. Send the culture swabs in transport medium 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 culture swabs so the swabs do not freeze.

### 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.
- Sample Handling & Storage: Please always keep sample refrigerated and only for a limited time before shipment.
- Sample Shipment: Send the culture swabs 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 culture swabs so the swabs do not freeze.

### 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: Fecal samples should be stored in the refrigerator until ready to send.
- Sample Shipment: Send the tubes 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 culture swabs so the feces do not freeze.

## Turnaround Times

Results turnaround is 10–14 business days after receipt of samples. You will receive an automated PDF with results.

# 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 nonstudy-related moribund animal tissue processing/ evaluation and biopsies.

Pricing and Profile offerings may change as we continue to expand our diagnostic portfolio and special pricing options may be available, for additional information please ask us.

**Histology Diagnostic–Only Services**

Includes:

- Diagnostic Histology services to clients who require occasional nonstudy-related specimens that require a diagnostic-only level of analysis. This service provides a pathologist-generated diagnostic report, rather than a research report.
- Examination and subgross trimming of fixed tissues. Trimmed tissues are paraffin-embedded, sectioned and stained with hematoxylin and eosin. Some diagnoses require additional testing with selective histochemical or immunohistochemical methods. In these cases, the pathologist will contact you to discuss the value and associated costs of performing these additional tests. Histologic changes in the tissues are interpreted and a diagnostic report is prepared.

## 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 70% alcohol or formalin. Store fixed samples at room temperature.

## Turnaround Times

Results turnaround is 10 business days after receipt of samples. Results reports are delivered by email and are also available via the secure, online client portal.

# Altered Schaedler Flora Bacteria Detection

**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

## 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.

## Turnaround Times

Results turnaround is 13-15 business days after receipt of samples. Results reports are delivered by email and are also available via the secure, online client portal.

# Germ-Free Animal Monitoring

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

**Germ-Free Complete Profile**

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

## 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%) solutionfor 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.

## Turnaround Times

Results turnaround is 13–15 business days after receipt of samples. You will receive an automated PDF with results. Raw data without interpretation will be sent.

# Microbiome Analysis

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

**Microbiome Analysis**

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

## 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 faecal pellets per animal into an empty 5 mL tube using a sterile toothpick. Close tube securely. Discard toothpick after each animal. Place tube containing faecal 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 non-human primate, dog, cat, pig, zebrafish, etc. Please contact for more details.

## Turnaround Times

Results turnaround is 4 weeks after receipt of samples. You will receive an USB datastick with results as well as a link to a DropBox folder if preferred.

IDEXX BIOANALYTICS

# Getting Started

**Sample collection kit request**

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

Check out IDEXX BioAnalytics' **Welcome Portal**. Here you will find even more detailed information on how to start, collect and submit samples, and request access to our client portal.

You can also reach out to our Client Support Service team and/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 phone calls and emails Monday through Friday 8:00 am ET–8:00 pm ET. They can be reached at:

**Client Support Services**
**1-800-669-0825**
**IDEXXBioAnalytics@IDEXX.com**

The CSS team can help you with:

- Account setup and sample submission
- Checking the status of a current submission
- Billing inquiries
- Requesting collection supplies
- Any other questions regarding our services

## Test Options and Volumes

For pooling advice please look up details in the In-Depth Testing Information section or contact your Account Manager or CSS team.

## Supplies

IDEXX BioAnalytics can provide free sample collection materials via our **Sample Collection Request Form**

## Submission Process

If you're ready to submit, you can fill out the **New Client Registration form** on our website. This will provide all the information needed to the CSS to get your account set up.

After receiving your login credentials, you'll be able to set up your submission paperwork **online**. Please see our website tutorials for how the system works. After you've completed the submission, please place a copy of the submission form confirmation in your shipping container. This helps expedite the sample check-in process and assures that your samples can be immediately moved to the lab to begin processing.

Any changes or updates to your online submission order can be requested by notifying our CSS team at **idexxbioanalytics@idexx.com**.

IDEXX BIOANALYTICS

# Getting Started

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## General Submission Information

### Proper specimen labeling is critical

- Proper labeling helps ensure accuracy in testing
- IDs on sample vials must match IDs on submission paperwork
- Please pool samples at your site
- Remove any other material, such as bedding, from feces for PCR testing
- Reference SOPs and use sample collection materials provided by IDEXX BioAnalytics to ensure optimal sampling
- Do not cover the entire specimen tube with a label, as this will prevent the technologist from assessing the specimen
- 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 samples should be in zip lock bags or sample boxes and inside a box or shipping container, packed with filler material to prevent samples from being jostled during transit. The submission confirmation form should be inside the container. Samples should be on gel packs or dry ice depending upon specific needs; no wet ice please.

## Shipping

Please contact FedEx for pick-up services specifics and proper shipping and transport packaging for your area at 1-800-GOFEDEX.

### Label the outside of all boxes with the following:

**To IDEXX BioAnalytics**

**Attn: Sample Receiving**

**From (Your Company Name)**

Do not send specimens for Biological Materials to the Preclinical Service Lab locations.

## Results Delivery Options

We provide results by email. Our TAT depends on performed tests, please check details in In-depth section Additionally, you will have access to our **online portal** to access your results. Final PDFs are sent out when all testing on an accession is completed.

### Individual sample reports or multi-sample reports

IDEXX BioAnalytics provides you by default a multi-sample/animal PDF file report, containing all samples and animals on one document. We are able to provide you with 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

**The CSS team can help you make any adjustments to your result distribution preferences.**

IDEXX BIOANALYTICS

# North America Lab Locations

## Animal Health Monitoring, Biological Materials Testing, and Histology Lab Services

### Columbia, MO

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

### Customer Service

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

IDEXX BIOANALYTICS

# Europe Lab Locations

## Animal Health Monitoring, Biological Materials Testing, Histology Lab Services, and Research Pathology Lab Services

### Delivery Address

**IDEXX GmbH**
**IDEXX BioAnalytics**
**Im Moldengraben 65**
**D-70806 Kornwestheim**
**Germany**

### Customer Service

| | | | |
|---|---|---|---|
| **Austria** | +49 (0) 7154 17 50 585 | **Netherlands** | +31 (0) 2355 87 585 |
| **Czech Republic** | +49 (0) 7154 17 50 585 | **Norway** | +44 (0) 193 75 44 023 |
| **Denmark** | +44 (0) 193 75 44 023 | **Poland** | +49 (0) 7154 17 50 585 |
| **Finland** | +44 (0) 193 75 44 023 | **Portugal** | +34 (0) 9326 72 813 |
| **France** | +33 (0) 1492 18 346 | **Spain** | +34 (0) 9326 72 813 |
| **Germany** | +49 (0) 7154 17 50 585 | **Sweden** | +44 (0) 193 75 44 023 |
| **Ireland** | +44 (0) 193 75 44 023 | **Switzerland** | +41 (0) 319 70 6270 |
| **Israel** | +33 (0) 1492 18 346 | **UK** | +44 (0) 193 75 44 023 |
| **Italy** | +34 (0) 9326 72 813 | **Other** | +49 (0) 7154 17 50 585 |

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

QUICK JUMP TO

→ Table of Contents

# Biological Testing

QUICK JUMP TO

→ Quick Reference

→ In-Depth Testing Information (Listing of Profiles)

→ Resources

BIOLOGICAL TESTING

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**


| Test listing by species | Page |
|---|---|
| **CANINE Biological Materials Testing** | |
| **Canine genetic contamination** | |
| CellCheck™ Canine | 90 |
| CellCheck™ Canine PLUS *Mycoplasma* | 90 |
| Interspecies Contamination ONLY | 91 |
| Interspecies Contamination ONLY PLUS. | 91 |
| Add-on Species to Interspecies Contamination ONLY | 91 |
| **Canine microbial contamination** | |
| Cell Line Sterility Profile 1 - Direct inoculation | 91 |
| Cell Line Sterility Profile 1 and Anaerobic Culture | 91 |
| Cell Line Sterility Profile 1 and *Mycoplasma* spp. PCR Assay | 91 |
| STAT-Myco (*Mycoplasma* spp.) | 91 |
| **HUMAN Biological Materials Testing** | |
| **Human genetic contamination** | |
| CellCheck™ 9 - human. | 90 |
| CellCheck™ 9 PLUS *Mycoplasma*. | 90 |
| CellCheck™ 16 - human. | 90 |
| CellCheck™ 16 PLUS *Mycoplasma*. | 90 |
| Interspecies Contamination ONLY. | 90 |
| Interspecies Contamination ONLY PLUS. | 91 |
| Add-on Species to Interspecies Contamination ONLY | 91 |
| **Human microbial contamination** | |
| Cell Line Sterility Profile 1 - Direct inoculation | 91 |
| Cell Line Sterility Profile 1 and Anaerobic Culture | 91 |
| Cell Line Sterility Profile 1 and *Mycoplasma* spp. PCR Assay. | 91 |
| h-IMPACT™ 1 | 89 |
| h-IMPACT™ 2 | 89 |
| h-IMPACT™ 3 | 89 |
| h-IMPACT™ oncogenic | 89 |
| h-IMPACT™ comprehensive | 89 |
| STAT-Myco (*Mycoplasma* spp.) | 89 |
| **Human microbial + genetic contamination** | |
| h-IMPACT™ comprehensive + CellCheck™ 9 | |
| h-IMPACT™ comprehensive + CellCheck™ 16 | |
| **MOUSE Biological Materials Testing** | |
| **Mouse genetic contamination** | |
| CellCheck™ Mouse 19 | 90 |
| CellCheck™ Mouse 19 PLUS *Mycoplasma* | 90 |
| Interspecies Contamination ONLY | 91 |
| Interspecies Contamination ONLY PLUS | 91 |
| Add-on Species to Interspecies Contamination ONLY | 91 |
| **Mouse microbial contamination** | |
| Cell Line Sterility Profile 1 - Direct inoculation | 91 |
| Cell Line Sterility Profile 1 and Anaerobic Culture | 91 |
| Cell Line Sterility Profile 1 and *Mycoplasma* spp. PCR Assay | 91 |
| IMPACT™ FELASA Mouse | 87 |
| IMPACT™ 1 (Mouse) | 87 |
| IMPACT™ 2 (Mouse) | 87 |
| IMPACT™ 3 (Mouse) | 87 |
| IMPACT™ 4 (Mouse) | 87 |
| IMPACT™ 8 (Mouse / Rat Comprehensive) | 88 |
| IMPACT™ SC (Mouse) | 87 |
| STAT-Myco (*Mycoplasma* spp.) | 90 |
| **Human microbial + genetic contamination** | |
| IMPACT™ 1 + CellCheck™ Mouse 19 | |
| **RAT Biological Materials Testing** | |
| **Rat genetic contamination** | |
| CellCheck™ Rat | 90 |

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**


| Test listing by species | Page |
|---|---|
| CellCheck™ Rat PLUS *Mycoplasma* | 90 |
| Interspecies Contamination ONLY | 91 |
| Interspecies Contamination ONLY PLUS | 91 |
| Add-on Species to Interspecies Contamination ONLY | 91 |
| **Rat microbial contamination** | |
| Cell Line Sterility Profile 1 - Direct inoculation | 91 |
| Cell Line Sterility Profile 1 and Anaerobic Culture | 91 |
| Cell Line Sterility Profile 1 and Mycoplasma spp. PCR Assay | 91 |
| IMPACT™ FELASA Rat | 87 |
| IMPACT™ 5 (Rat) | 87 |
| IMPACT™ 6 (Rat) | 87 |
| IMPACT™ 8 (Mouse / Rat Comprehensive) | 88 |
| STAT-Myco (*Mycoplasma* spp.) | 90 |

| Test listing alphabetical | Page |
|---|---|
| **A** | |
| Adeno-associated virus (AAV) | 89 |
| **B** | |
| BK polyomavirus (BKPyV) | 89 |
| **C** | |
| **Cell Line Authentication** | |
| CellCheck™ 9 - human | 90 |
| CellCheck™ 9 PLUS *Mycoplasma* | 90 |
| CellCheck™ 16 - human. | 90 |
| CellCheck™ 16 PLUS *Mycoplasma* | 90 |
| CellCheck™ Canine | 90 |
| CellCheck™ Canine PLUS *Mycoplasma* | 90 |
| CellCheck™ Mouse 19 | 90 |
| CellCheck™ Mouse 19 PLUS *Mycoplasma* | 90 |
| CellCheck™ Rat | 90 |

| Test listing alphabetical | Page |
|---|---|
| CellCheck™ Rat PLUS *Mycoplasma* | 90 |
| CO1 DNA Barcoding | 91 |
| Interspecies Contamination ONLY | 91 |
| Interspecies Contamination ONLY PLUS | 91 |
| Add-on Species to Interspecies Contamination ONLY | 91 |
| *Corynebacterium bovis* | 87 |
| *Corynebacterium* spp. (HAC2) | 87 |
| **E** | |
| Ectromelia virus | 87 |
| Epstein-Barr virus (EBV) | 89 |
| **H** | |
| Hamster parvovirus | 88 |
| Hantaan virus | 89 |
| Hantaviruses (Hantaan, Seoul, Sin Nombre viruses) | 89 |
| *Helicobacter* spp. | 87 |
| Hepatitis virus A | 89 |
| Hepatitis virus B | 89 |
| Hepatitis virus C | 89 |
| **Human IMPACT™ Profiles** | |
| h-IMPACT™ 1 | 89 |
| h-IMPACT™ 2 | 89 |
| h-IMPACT™ 3 | 89 |
| h-IMPACT™ oncogenic | 89 |
| h-IMPACT™ comprehensive | 89 |
| Human adenovirus (HAdV) | 89 |
| Human betaherpesvirus 7 (HHV-7) | 89 |
| Human cytomegalovirus (HCMV) | 89 |
| Human foamy virus (HFV) | 89 |
| Human herpes simplex 1 (HSV-1) | 89 |
| Human herpes simplex 2 (HSV-2) | 89 |

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**


| Test listing alphabetical | Page |
|---|---|
| Human herpes virus 6 (HHV-6) | 89 |
| Human herpes virus 8 (HHV-8) | 89 |
| Human immunodeficiency virus 1 (HIV1) | 89 |
| Human immunodeficiency virus 2 (HIV2) | 89 |
| Human papillomavirus 16 (HPV 16) | 89 |
| Human papillomavirus 18 (HPV 18) | 89 |
| Human T-lymphotropic virus 1 (HTLV1) | 89 |
| Human T-lymphotropic virus 2 (HTLV2) | 89 |
| **I** | |
| **IMPACT™ Profiles** | |
| IMPACT™ FELASA Mouse | 87 |
| IMPACT™ FELASA Rat | 87 |
| IMPACT™ 1 (Mouse) | 87 |
| IMPACT™ 2 (Mouse) | 87 |
| IMPACT™ 3 (Mouse) | 87 |
| IMPACT™ 4 (Mouse) | 87 |
| IMPACT™ 5 (Rat) | 87 |
| IMPACT™ 6 (Rat) | 87 |
| IMPACT™ 7 (Hamster) | 88 |
| IMPACT™ 8 (Mouse / Rat Comprehensive) | 88 |
| IMPACT™ SC (Mouse) | 87 |
| Interspecies Contamination ONLY | 91 |
| Interspecies Contamination ONLY PLUS | 91 |
| Add-on Species to Interspecies Contamination ONLY | 91 |
| **J** | |
| JC polyomavirus (JCPyV) | 89 |
| **K** | |
| K virus | 87 |
| Kilham's rat virus (KRV) | 87 |
| **L** | |
| Lactate dehydrogenase-elevating virus (LDV) | 87 |
| Lymphocytic choriomeningitis virus (LCMV) | 87 |
| **M** | |
| Merkel cell polyomavirus (MCPyV) | 87 |
| Mouse kidney parvovirus (MKPV) | 87 |
| Minute virus of mice (MVM) | 87 |
| Mouse adenovirus type 1 (FL) (MAV1) | 87 |
| Mouse adenovirus type 2 (K87) (MAV2) | 87 |
| Mouse cytomegalovirus (MCMV) | 87 |
| Mouse hepatitis virus (MHV) | 87 |
| Mouse parvovirus (MPV1-5) | 87 |
| Mouse polyomavirus | 87 |
| Mouse rotavirus (EDIM) | 87 |
| Mouse thymic virus (MTV) | 87 |
| Murine astrovirus1 (MuAstV1) | 87 |
| Murine norovirus (MNV) | 87 |
| *Mycoplasma pulmonis* | 87 |
| *Mycoplasma* spp. | 87 |
| **Mycoplasma Testing** | |
| STAT-Myco (*Mycoplasma* spp.) | 90 |
| **P** | |
| Parvovirus B19 (B19) | 89 |
| Pneumonia virus of mice (PVM) | 87 |
| **R** | |
| Rat coronavirus / Sialodacryoadenitis virus (RCV/SDAV) | 87 |
| Rat cytomegalovirus (RCMV) | 87 |
| Rat minute virus (RMV) | 87 |
| Rat parvovirus (RPV) | 87 |
| Rat theilovirus (RTV) | 87 |
| Reovirus type 3 (REO3) | 87 |

# Quick Reference

For even more IDEXX BioAnalytics tests visit **idexxbioanalytics.com**


| Test listing alphabetical | Page |
|---|---|
| **S** | |
| Severe acute respiratory syndrome coronavirus 2 (SARS-CoV 2)† | 87 |
| Sendai virus | 87 |
| Seoul virus | 89 |
| SV40 polyomavirus (SV40) | 87 |
| **Sterility Testing** | |
| Biologics Sterility Profile 1 - Direct inoculation | 91 |
| Biologics Sterility Profile 1 and Anaerobic Culture | 91 |
| Biologics Sterility Profile 1 and *Mycoplasma* spp. PCR Assay | 91 |
| **T** | |
| Theiler's murine encephalomyelitis virus (TMEV) | 87 |
| Toolan's H-1 virus (H-1) | 87 |
| *Treponema pallidum* (Syphilis) | 89 |
| **V** | |
| Varicella virus (VZV) | 89 |


† For research purpose only

# IMPACT™ Rodent Pathogen Testing

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

*IMPACT™ cell lines 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 or human pathogens that can pose a risk of disease outbreaks in animal facilities. Contaminated specimens can also introduce unwanted research variables.*

## IMPACT™ Mouse

| | IMPACT™ 1 | IMPACT™ 2 | IMPACT™ 3 | IMPACT™ 4 | IMPACT™ SC | IMPACT™ FELASA |
|---|---|---|---|---|---|---|
| *Mycoplasma* spp. | ● | ● | ● | ● | ● | ● |
| *Mycoplasma pulmonis* | ● | ● | ● | ● | ● | ● |
| Mouse hepatitis virus (MHV) | ● | ● | ● | ● | ● | ● |
| Minute virus of mice (MVM) | ● | ● | ● | ● | ● | ● |
| Mouse parvovirus (MPV1-5) | ● | ● | ● | ● | ● | ● |
| Theiler's murine encephalomyelitis virus (TMEV) | ● | ● | ● | ● | ● | ● |
| Sendai virus | ● | ● | ● | ● | | ● |
| Pneumonia virus of mice (PVM) | ● | ● | ● | ● | | ● |
| Murine norovirus (MNV) | ● | ● | ● | | | ● |
| Reovirus 3 (REO3) | ● | ● | ● | | | ● |
| Mouse rotavirus (EDIM) | ● | ● | ● | | | ● |
| Ectromelia virus | ● | ● | ● | | | ● |
| Lymphocytic choriomeningitis virus (LCMV) | ● | ● | ● | | | ● |
| Polyomavirus | ● | ● | ● | | | |
| Lactate dehydrogenase-elevating virus (LDEV) | ● | ● | ● | | | |
| Mouse adenovirus (MAV1) | ● | ● | | | | ● |
| Mouse adenovirus (MAV2) | ● | ● | | | | ● |
| Mouse cytomegalovirus (MCMV) | ● | ● | | | | |
| K virus | ● | | | | | |
| Mouse thymic virus (MTV) | ● | | | | | |
| Hantaan virus | ● | | | | | |
| *Corynebacterium bovis* | ● | | | | | ● |
| *Corynebacterium* spp. (HAC2) | ● | | | | | ● |
| Mouse kidney parvovirus (MKPV) | ● | | | | | |

## IMPACT™ Rat

| | IMPACT™ 5 | IMPACT™ 6 | IMPACT™ FELASA |
|---|---|---|---|
| *Mycoplasma* spp. | ● | ● | ● |
| *Mycoplasma pulmonis* | ● | ● | ● |
| Pneumonia virus of mice (PVM) | ● | ● | ● |
| Kilham's rat virus (KRV) | ● | ● | ● |
| Toolan's H-1 virus | ● | ● | ● |
| Rat parvovirus (RPV) | ● | ● | ● |
| Rat minute virus (RMV) | ● | ● | ● |
| Lymphocytic choriomeningitis virus (LCMV) | ● | ● | |
| Rat cytomegalovirus (RCMV) | ● | ● | |
| Sendai virus | ● | ● | ● |
| Rat coronavirus (RCV)/Sialodacryoadenitis virus (SDAV) | ● | ● | ● |
| Seoul virus | ● | | ● |
| Mouse adenovirus (MAV1) | ● | | ● |
| Mouse adenovirus (MAV2) | ● | | ● |
| Reovirus 3 (REO3) | ● | | ● |
| Rat theilovirus (RTV) | ● | | ● |
| *Corynebacterium bovis* | | | ● |
| *Corynebacterium* spp. (HAC2) | | | ● |

# IMPACT™ Rodent Pathogen Testing

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## IMPACT™ Hamster

| | IMPACT™ 7 |
|---|---|
| *Mycoplasma* spp. | • |
| *Mycoplasma pulmonis* | • |
| Pneumonia virus of mice (PVM) | • |
| Kilham's rat virus (KRV) | • |
| Toolan's H-1 virus | • |
| Hamster parvovirus (HaPV) | • |
| Minute virus of mice (MVM) | • |
| Lymphocytic choriomeningitis virus (LCMV) | • |
| Theiler's murine encephalomyelitis virus (TMEV) | • |
| Sendai virus | • |
| Reovirus 3 (REO3) | • |
| Hantaan virus | • |

## IMPACT™ Mouse / Rat Comprehensive

| | IMPACT™ 8 |
|---|---|
| *Mycoplasma* spp. | • |
| *Mycoplasma pulmonis* | • |
| Sendai virus | • |
| Mouse hepatitis virus (MHV) | • |
| Pneumonia virus of mice (PVM) | • |
| Minute virus of mice (MVM) | • |
| Mouse parvovirus (MPV1-5) | • |
| Murine norovirus (MNV) | • |
| Reovirus 3 (REO3) | • |
| Mouse rotavirus (EDIM) | • |
| Ectromelia virus | • |
| Lymphocytic choriomeningitis virus (LCMV) | • |
| Polyomavirus | • |
| K virus | • |
| Mouse adenovirus (MAV1) | • |
| Mouse adenovirus (MAV2) | • |
| Mouse cytomegalovirus (MCMV) | • |
| Lactate dehydrogenase-elevating virus (LDEV) | • |
| Mouse thymic virus (MTV) | • |
| Hantaan virus | • |
| Kilham's rat virus (KRV) | • |
| Toolan's H-1 virus | • |
| Rat parvovirus (RPV) | • |
| Rat cytomegalovirus (RCMV) | • |
| Rat coronavirus (RCV)/Sialodacryoadenitis virus (SDAV) | • |
| Rat minute virus (RMV) | • |
| Rat theilovirus (RTV) | • |
| Seoul virus | • |
| Theiler's murine encephalomyelitis virus (TMEV) | • |
| *Corynebacterium bovis* | • |
| *Corynebacterium* spp. (HAC2) | • |
| Mouse kidney parvovirus (MKPV) | • |

# h-IMPACT™ Human Pathogen Testing

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

*Contamination of cell lines and tumors with human pathogens can pose significant health risks to personnel and can introduce unwanted variables to your research. h-IMPACT™ PCR-based testing ensures your biological materials are safe to be handled.*

## h-IMPACT™ Human

| | h-IMPACT™ 1 | h-IMPACT™ 2 | h-IMPACT™ 3 | h-IMPACT™ oncogenic | h-IMPACT™ comprehensive |
|---|---|---|---|---|---|
| *Mycoplasma* spp. | • | • | • | • | • |
| 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 | • | • | • | | • |
| Hepatitis virus B | • | • | • | • | • |
| Hepatitis virus C | • | • | • | • | • |
| Hantaan virus | • | | • | | • |
| Seoul virus | • | | • | | • |
| Sin Nombre virus | • | | • | | • |
| *Corynebacterium bovis* | • | | | | • |
| *Corynebacterium* spp. (HAC2) | • | | | | • |
| Herpes simplex 1 (HSV 1) | • | | | | • |
| Herpes simplex 2 (HSV 2) | • | | | | • |
| Human cytomegalovirus (HCMV) | • | | | | • |
| Human herpes virus 6 (HHV 6) | • | | | | • |
| Human herpes virus 8 (HHV 8) | • | | | • | • |
| Human adenovirus (HAdV) | • | | | | • |
| Human papillomavirus 16 (HPV) | • | | | • | • |
| Human papillomavirus 18 (HPV) | • | | | • | • |
| Lymphocytic choriomeningitis virus (LCMV) | • | | | | • |
| Varicella virus (VZV) | • | | | | • |
| Epstein-Barr virus (EBV) | • | | | • | • |
| *Treponema pallidum* (Syphilis) | • | | | | • |
| Adeno-associated virus (AAV) | | | | • | • |
| BK polyomavirus (BKPyV) | | | | • | • |
| Human betaherpesvirus 7 (HHV-7) | | | | | • |
| Human foamy virus (HFV) | | | | | • |

| | h-IMPACT™ 1 | h-IMPACT™ 2 | h-IMPACT™ 3 | h-IMPACT™ oncogenic | h-IMPACT™ comprehensive |
|---|---|---|---|---|---|
| JC polyomavirus (JCPyV) | | | | • | • |
| Merkel cell polyomavirus (MCPyV) | | | | • | • |
| Parvovirus B19 (B19) | | | | • | • |
| SV40 polyomavirus (SV40) | | | | • | • |

## Additional h-IMPACT™ 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. While this amount is not considered optimal, our IMPACT™ assays are very sensitive and allow detection of 1–100 virions
- Sample shipping: Ship samples by overnight courier with sufficient ice packs or dry ice so that samples remain frozen during shipment

PCR results turnaround is 3 business days or less after receipt of samples. You will receive an automated PDF with results.

# Mycoplasma Detection

Stat-Myco is a real-time PCR-based service with the highest rate of sensitivity ($10^2$ CFU/mL), compared to other methodologies for Mycoplasma spp. detection. Testing for this contaminant ensures the quality of your biological materials, preventing erroneous data in in vitro and in vivo studies. It can detect as few as 1–10 copies.

| Test name and components |
|---|
| ***Mycoplasma* spp. PCR Testing** |

## Additional STAT-Myco 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 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. While this amount is not considered optimal, our Mycoplasma assay is very sensitive and allow detection of 1–10 genome copies.
- Sample shipping: Ship samples by overnight courier with sufficient ice packs or dry ice so that samples remain frozen during shipment

PCR results turnaround is 3 business days or less after receipt of samples. You will receive an automated PDF with results.

# Cell Line Authentication | CellCheck™

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

We will also provide data analysis and interpretation, along with a comparative analysis which can be run against a reference profile or in comparison to your own parental cells. 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

| Test name and components |
|---|
| **CellCheck™ 9 – Human**<br>Human 9 species specific STR marker profile |
| **CellCheck™ 16 – Human**<br>Establishes genetic profile using 16 human STR markers. We recommend a 16 STR marker CellCheck™ when a new cell line is established or, in any case, at the beginning of the experiment |
| **CellCheck™ 19 Mouse**<br>Establishes genetic profile with 19 species specific STR markers, exceeding the published NIST 18 marker set for a higher power of discrimination |
| **CellCheck™ Rat**<br>Establishes genetic profile using 31 species specific STR markers |
| **CellCheck™ Canine**<br>Establishes genetic profile using 14 species specific STR markers |

# Interspecies Contamination Testing

| Test name and components |
|---|
| **Interspecies Contamination Only**<br>Recommended as a standalone for African green monkey and Chinese hamster |
| **Interspecies Contamination Only, Add-on Species**<br>Canine, porcine and laboratory rabbit |
| **CO1 DNA Barcoding**<br>Used for less common species cell lines e.g. Syrian hamster, fish, cow, pig etc.<br>• Confirms the cell line species of origin.<br>• Utilizes the sequence data for approximately 660 base pair region of the mitochondrial cytochrome C oxidase subunit 1 (CO1) gene.<br>• Compiles with American National Standards Institute (ANSI) guidelines for |

## Additional Cell Line Authentication / Interspecies Contamination Testing 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

Results turnaround is 3 business days or less after receipt of samples. You will receive an automated PDF with results.

# 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.

| Test name and components | Sample type requirements |
|---|---|
| **Biologics Sterility Profile: Direct Inoculation Protocol**<br>• Direct inoculation on a battery of eight media, incubated for a period of 10 days<br>• Identification of Microbial Contaminants by MALDI-TOF Mass Spectrometry | 1–1.5 mL tissue culture media and cellular material (if present) |
| **Biologics Sterility Profile and Anaerobic Culture** | 1–1.5 mL tissue culture media and cellular material (if present) |
| **Biologics Sterility Profile and Mycoplasma spp. PCR Assay** | 1–1.5 mL tissue culture media and cellular material (if present) |

## Additional Sterility Diagnostics 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 the course of incubation as a backup or possible confirmatory testing.

The inoculum size per medium is 100 µL. Submitters should 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).

When bundling 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.

- Sample shipping: 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.

Results turnaround is 14 business days after receipt of samples. You will receive an automated PDF with results.

# **ConfirmPDx:** First-to-market ddPCR assay to better understand tumor composition.



## Accurate, precise data is essential to good science.

ConfirmPDX is the most accurate assay for determining the percentage of human versus mouse cells within a mixed population. Samples are easy to prepare, and results are delivered quickly, so you can get the confirmation you need—and progress tumor studies with confidence. No more estimating. No more ranges. No more uncertainty.

As a scientist, you rely on sound data from your model systems to provide answers that will advance medicine and therapeutics. A thorough evaluation of these models will provide the information needed to ensure those study conclusions are correct. With increased clarity into the into the constitution of cell line-derived or patient-derived tumor xenografts, this assay will. help keep your work moving in the right direction.

When you need to know how much of the tumor you're studying is of human origin and how much is the mouse, there's ConfirmPDX.

## New technology delivers more in-depth answers.

Our patent-pending ConfirmPDX fractional abundance testing is available as a stand-alone test or as an add-on to your current STR-based cell line authentication protocols. Based on ddPCR technology, you can now go beyond a yes/ no answer when assessing the species present in a sample and drive your study forward based on accurate, quantitative results.

## New technology delivers more in-depth answers.

Our patent-pending ConfirmPDX fractional abundance testing is available as a stand-alone test or as an add-on to your current STR-based cell line authentication protocols. Based on ddPCR technology, you can now go beyond a yes/ no answer when assessing the species present in a sample and drive your study forward based on accurate, quantitative results.

## Easy, one-step sample preparation and submission.

ConfirmPDX is the first commercially available test for relative speciation of mixed population samples. And all you have to do is send in a single vial of cells, PDX tumor fragment, formalin-fixed paraffin-embedded tissue block sample, fresh-frozen tumor, or cell line. No advanced labeling is needed, and there's no new sample preparation to learn. The data you need to drive your next steps confidently will be in your inbox at the speed you depend on from IDEXX BioAnalytics.

| Traditional PCR Assay | | ConfirmPDX | |
|---|---|---|---|
| **Human** | **Human** | **Human** | **Mouse** |
| + | - | 0% | 100% |
| + | - | 7% | 93% |
| + | + | 96% | 4% |
| + | + | 35% | 65% |

IDEXX BIOANALYTICS

# Getting Started

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

Check out IDEXX BioAnalytics' **Welcome Portal**. Here you will find even more detailed information on how to start, collect and submit samples, and request access to our client portal.

You can also reach out to our Client Support Service team and/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 phone calls and emails Monday through Friday from 8:00 am ET–8:00 pm ET. They can be reached at:

**Client Support Services**
**1-800-669-0825**
**IDEXXBioAnalytics@IDEXX.com**

The CSS team can help you with:

- Account setup and sample submission
- Checking the status of a current submission
- Billing inquiries
- And any other questions regarding our services

## Test Options and Volumes

Different samples can be accepted such as cells, tissue, solid tumor samples and more. Please look up more details in the In-Depth Testing Information section.

If the cell lines are currently banked and frozen, there is no need to culture. Send a frozen vial, on ice packs or dry ice. If you are actively working with the cell lines, please aliquot a sample of approximately 1–1.5 mL and include cellular material as well as culture media.

The optimal sample for microbial and/or genetic contamination testing is a minimum of 1x106 cells. However, if that volume is not available, we can accept aliquots with fewer cells. It should be noted that if dilutions are required to perform our assays on your reduced cellular volume, there is a potential for reduced sensitivity. Please consult with your CSS team.

When bundling 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.

IDEXX BIOANALYTICS

# Getting Started

Find real-time comprehensive information in the Client Welcome Portal: **www.idexxbioanalytics.com/welcome-portal**

## Submission Process

If you're ready to submit, you can fill out the **New Client Registration form** on our website. This will provide all the information needed to the CSS to get your account set up.

After receiving your login credentials, you'll be able to set up your submission paperwork **online**. Please see our website tutorials for how the system works and ask CSS for a pdf guide/virtual training. After you've completed the submission form, please place a copy of the submission confirmation in your shipping container. This helps expedite the sample check-in process and assures that your samples can be immediately moved to the lab to begin processing.

## General Submission Information

### Proper specimen labeling is critical

- Proper labeling helps ensure accuracy in testing
- IDs on sample vials must match IDs on submission paperwork
- Do not cover the entire specimen tube with a label, as this will prevent the technologist from assessing the specimen.
- Split-off tubes must be labeled appropriately
- 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 samples should be in zip lock bags or sample boxes and inside a styrofoam box or shipping container, packed with filler material to prevent samples from being jostled during transit. The submission confirmation form should be inside the container. Samples should be on gel packs or dry ice depending upon specific needs; no wet ice please.

## Shipping

Please contact FedEx for pick-up services specifics and proper shipping and transport packaging for your area at 1-800-GOFEDEX.

**Label the outside of all boxes with the following:**
**To IDEXX BioAnalytics, Attn: Sample Receiving**
**From (Your Company Name)**

Do not send specimens for Biological Materials to the Preclinical Service Lab locations.

## Results Delivery Options

We provide results by email and our TAT varies depending on the test requested. Additionally, you will have access to our **online portal** to access your results.

### Individual sample reports or multi-sample reports

IDEXX BioAnalytics provides you by default 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 client portal.

Any changes or updates to your online submission order can be requested by notifying our CSS team at **idexxbioanalytics@idexx.com**.

**Final reports only -** Final PDFs are sent out when all testing on an accession is completed.
**The CSS team can help you make any adjustments to your result distribution preferences.**

IDEXX BIOANALYTICS

# North America Lab Locations

## Animal Health Monitoring, Biological Materials Testing, and Histology Lab Services

### Columbia, MO

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

### Customer Service

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

IDEXX BIOANALYTICS

# Europe Lab Locations

## Animal Health Monitoring, Biological Materials Testing, Histology Lab Services, and Research Pathology Lab Services

### Delivery Address

**IDEXX GmbH**
**IDEXX BioAnalytics**
**Im Moldengraben 65**
**D-70806 Kornwestheim**
**Germany**

### Customer Service

| | | | |
|---|---|---|---|
| **Austria** | +49 (0) 7154 17 50 585 | **Netherlands** | +31 (0) 2355 87 585 |
| **Czech Republic** | +49 (0) 7154 17 50 585 | **Norway** | +44 (0) 193 75 44 023 |
| **Denmark** | +44 (0) 193 75 44 023 | **Poland** | +49 (0) 7154 17 50 585 |
| **Finland** | +44 (0) 193 75 44 023 | **Portugal** | +34 (0) 9326 72 813 |
| **France** | +33 (0) 1492 18 346 | **Spain** | +34 (0) 9326 72 813 |
| **Germany** | +49 (0) 7154 17 50 585 | **Sweden** | +44 (0) 193 75 44 023 |
| **Ireland** | +44 (0) 193 75 44 023 | **Switzerland** | +41 (0) 319 70 6270 |
| **Israel** | +33 (0) 1492 18 346 | **UK** | +44 (0) 193 75 44 023 |
| **Italy** | +34 (0) 9326 72 813 | **Other** | +49 (0) 7154 17 50 585 |

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

QUICK JUMP TO

→ Table of Contents

# 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.

**Confidentiality.** IDEXX agrees to maintain in confidence all of your proprietary and nonpublic materials, data, reports, plans, records, technical and other information and to use such confidential information only for the purpose of performing analyses of specimens and providing reports on our findings to you. You agree to maintain in confidence all IDEXX proprietary and nonpublic materials, technical and other information that IDEXX provides to you in connection with its services. Each party shall protect the other party's confidential information by using the same degree of care, but not less than a reasonable degree of care, to prevent the unauthorized use, dissemination or publication of the confidential information as it uses to protect its own confidential information of a like nature. In any instance where information is subpoenaed by and must confidence all of your proprietary and nonpublic materials, data, reports, plans, records, technical and other information be released to a governmental agency, or is otherwise required to be disclosed pursuant to law or regulation, the other party will be promptly notified.

**Payment Terms.** All fees are charged or billed directly to you. Payment in advance is required for all clients except those whose credit has been established with our company. For clients with IDEXX -approved credit, our standard terms are net 60 days, after which time we reserve the right to charge a 1.5% per month late charge or the maximum amount permitted by law (if less) on all unpaid balances. Any deviation in payment terms must be agreed to in writing. IDEXX has the right to ask for payment in advance, if the established payment terms are not adhered to. IDEXX reserves the right to cease all work if you do not pay your invoice(s). If you default in payment for services rendered, you are responsible for reasonable collection and/or legal fees.

**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.

**Intellectual Property.** IDEXX agrees that all materials, documents, data, and reports arising from the laboratory analytical services provided by IDEXX to you shall be your sole property. IDEXX shall retain sole ownership laboratory analytical methods and processes and any discoveries or inventions related thereto that are conceived by IDEXX.

**Quality Assurances.** You acknowledge that IDEXX is not a "sponsor" (as defined in 21 CFR § 58.3(f)) or an "investigator," (as defined in 21 CFR § 312.3) and is not intended to be a "contract research organization," (as defined in 21 CFR § 312.3) for any purpose under FDA regulations or guidelines, and that IDEXX shall not receive any experimental animals. Unless otherwise specified by IDEXX in a quote or work order, IDEXX will not perform any Services hereunder in compliance with current Good Manufacturing Practices (21 CFR Parts 210 and 211) or Good Laboratory Practices for Non-Clinical Laboratory Studies (21 CFR Part 58). It is your exclusive responsibility to confirm that IDEXX's practices will meet your needs before placing any order for work.

**Retention of Specimens**. Unless otherwise agreed in writing, IDEXX shall retain nonhistology 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.

# Terms & Conditions (continued)

**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.

**Use of Name**. You agree not to use the IDEXX name, logo and/or data in any manner that might cause harm to IDEXX's reputation and/ or business, and under no circumstances will you or any of your affiliates publish the name or logo of IDEXX—either alone or in association with that of any other party—without IDEXX approval in writing.

**Limited Warranty and Limits of Liability**. In accepting analytical work, IDEXX warrants the accuracy of test results for the specimen as submitted. EXCEPT AS STATED IN THIS LIMITED WARRANTY, IDEXX MAKES NO OTHER WARRANTY, REPRESENTATION OR CONDITION, EXPRESS OR IMPLIED, WRITTEN OR ORAL, AND THERE IS NO WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE OR NONINFRINGEMENT. We do not assume, nor do we authorize any employee, agent, distributor or other person to assume for us, any other liability in connection with our services. If you qualify as a "consumer" under applicable law, then you may be entitled to implied warranties allowed by law, limited to the period of the express warranties and the remedies set forth in this limited warranty. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

IDEXX is not liable for failure to perform due to circumstances beyond our reasonable control. UNDER NO CIRCUMSTANCES WILL IDEXX BE LIABLE TO YOU OR ANY OTHER PERSON FOR LOSS OF PROFIT OR USE, SPECIAL, INCIDENTAL, CONSEQUENTIAL, INDIRECT, EXEMPLARY, PUNITIVE OR MULTIPLE DAMAGES, INCLUDING WITHOUT LIMITATION FOR LOSS OF GOODWILL, DATA OR EQUIPMENT OR FOR BUSINESS INTERRUPTION, ARISING OUT OF THE SALE OR PROVISION OF SERVICES OR FAILURE OR DELAY IN DELIVERING SUCH SERVICES, WHETHER BASED ON WARRANTY, CONTRACT, TORT OR OTHERWISE, EVEN IF YOU WERE ADVISED OF THE POSSIBILITY OF SUCH DAMAGES ORLOSSES. IDEXX's total liability to you in connection with the provision of services for any and all injuries, losses, expenses, demands, claims or damages whatsoever arising out of, or in any way related to, such services, from any cause or causes, shall not exceed an amount equal to the lesser of (a) damages suffered by you as the direct result thereof, or (b) the total amount paid by you to IDEXX for the analysis of the subject specimen. We accept no legal responsibility for the purposes for which you use the test results.

Some jurisdictions do not allow the exclusion or limitation of special, incidental, consequential, indirect, exemplary, punitive or multiple damages or the limitation of liability to the actual price paid for the product or service, in which case the above limitations may not apply to you. Our limited warranty gives you specific legal rights, and you may also have other rights that vary from jurisdiction to jurisdiction. IDEXX shall not accept any purchase order or other order for work that includes any conditions that vary from these Standard Terms and Conditions, and IDEXX hereby objects to any conflicting terms contained in any acceptance or order submitted by you.

**Collection and Use of Personal Information**. IDEXX may collect your personal information in order to provide you with the products and services you request, to inform you about products or services that we think may be of interest to you, and for other limited purposes. IDEXX may disclose personal information to third parties in certain circumstances, including as needed to fulfill your requests or otherwise in accordance with our privacy policies. IDEXX does not disclose personal information to third parties for their own marketing purposes. Please note that your information may be stored and processed in the United States, countries of the European Union, and elsewhere. Full information about IDEXX's privacy policies can be viewed at idexx.com.

**Governing Law; Venue; Waiver of Jury Trial**. These Standard Terms and Conditions and the transactions contemplated hereby, and all related disputes between the parties under or relating to these Standard Terms and Conditions, whether in contract, tort or otherwise, shall be governed by the laws of the State of Maine (or in the Province of Ontario, for Canadian sales), without reference to conflict of laws principles, and any related legal actions must be brought in the court of appropriate jurisdiction in the State of Maine (or in the Province of Ontario, for Canadian sales), which shall have exclusive jurisdiction (except that either of us may bring an action for an injunction or similar equitable relief against the other in any proper jurisdiction). You hereby waive any claim of lack of jurisdiction or inconvenient forum. YOU AND WE WAIVE TRIAL BY JURY IN ANY LEGAL ACTION BY OR AGAINST US IN SUCH LEGAL ACTIONS. We each further waive any claims against the other for multiple, punitive or exemplary damages in any legal actions relating to these Standard Terms and Conditions. The prevailing party in any such legal actions shall be entitled to an award of its reasonable legal fees and costs. Equal Opportunity/Affirmative Action Notice. IDEXX is an equal opportunity/affirmative action employer and complies with all the regulations of executive order 11246 and the regulations promulgated thereunder.

## North America

**IDEXX Laboratories, Inc.**
One IDEXX Drive
Westbrook, Maine 04092, USA

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

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

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

**Client Support Services, USA**
Phone: 800-669-0825
idexxbioanalytics.com
idexxbioanalytics@idexx.com

## Europe

**IDEXX BioAnalytics**
Vet Med Labor GmbH
Humboldtstraße 2
70806 Kornwestheim
Germany

**Client Support Services, EU**
idexxbioanalytics.eu
idexxbioanalytics-europe@idexx.com

© 2022 IDEXX Laboratories, Inc. All rights reserved. • IBA-10008-00
All ®/™ marks are owned by IDEXX Laboratories, Inc. or its affiliates in the United States and/or other countries.
The IDEXX Privacy Policy is available at idexx.com.