Langford Vets | University of BRISTOL

Diagnostic Laboratories

At the forefront of discovery, at the heart of animal care

Brochure for External Clients 2021

langfordvets.co.uk

European College of Veterinary Clinical Pathology Approved Training Laboratory

Langford Vets is proud to be a part of the University of Bristol

OUR SERVICES

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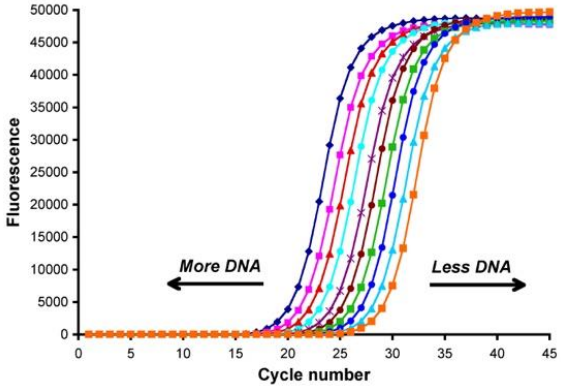
MOLECULAR DIAGNOSTIC UNIT

The Molecular Diagnostic Unit (MDU) offers veterinary surgeons state-of-the-art PCR assays to detect a wide range of bacterial and viral pathogens in cats and dogs.



All of our PCR assays are designed and validated in-house by experienced molecular biologists with input from our clinicians and all assays include internal amplification controls to ensure the highest reliability possible.

The Acarus laboratory, which specialises in detecting arthropod-borne microbial diseases in companion animals, is also part of the MDU. We have a dedicated Acarus email, acarus-lab@bristol.ac.uk, for any questions and clinical advice you require. There are discounts available if multiple qPCRs are run on the same sample or if qPCRs are run in combination with serology tests. Please see our Price List for further information.

Infectious Disease qPCR & Serology

Infectious Disease qPCR & Serology	Samples	Information	Turnaround times
Angiostrongylus vasorum antigen	0.2ml Serum or plasma	Detection of *Angiostrongylus vasorum* antigen in canine serum or plasma	1-2 working days
Bordetella bronchiseptica (qPCR Canine/Feline)	Throat swab or trach wash, BAL	Fact sheet	3-5 working days
Brucella serology (RSA & SAT) *	0.5ml Serum		5-10 working days
Canine Distemper (qPCR)	0.5ml EDTA blood or CSF. Conjunctival swab, nasal swab, and tissues	Fact sheet	3-5 working days
Chlamydia felis (qPCR)	Dry or VTM conjunctival swab	Fact sheet	3-5 working days
Equine Tapeworm (ELISA) *	0.5ml Serum (not in gel tube)		5-7 working days
Feline Calicivirus (FCV qPCR)	Dry or VTM oropharyngeal swab	Fact sheet	3-5 working days

Infectious Disease qPCR & Serology	Samples	Information	Turnaround times
Feline Coronavirus (qPCR)	Fresh faeces (2-5ml), effusion, tissue or 0.2ml CSF	Fresh faeces to assess FCoV shedding status (*not for FIP diagnosis),* effusion, tissue or CSF as a diagnostic aid for FIP. Fact sheet	3-5 working days
Feline Coronavirus antibody (Serum/effusion) *	0.5ml Serum or effusion	Ab titre reported	3-7 working days
Feline Herpesvirus (FHV qPCR)	Dry or VTM conjunctival or oropharyngeal swab	Fact sheet	3-5 working days
Feline Immunodeficiency Virus (FIV clade A qPCR)	0.5ml EDTA blood	Fact sheet	3-5 working days
Feline Immunodeficiency Virus antibody (FIV, ELISA)	0.2ml Serum or plasma	Fact sheet	2 working days
Feline Leukaemia Virus (FeLV qPCR, provirus)	0.5ml EDTA blood or bone marrow aspirate	Fact sheet	3-5 working days
Feline Leukaemia Virus (FeLV RT-qPCR, virus from mouth swab)	0.5ml EDTA blood or oropharyngeal swab	Fact sheet	3-5 working days
Feline Poxvirus (qPCR)	Scab, tissue or airway wash	Fact sheet	3-5 working days
Giardia antigen (SNAP)	1g Faeces	SNAP test to detect Giardia antigen	1-2 working days
Haemoplasmas spp qPCR Canine/Feline	0.5ml EDTA blood	Canine = 2 species qPCR Canine Fact sheet Feline = 3 species qPCR Feline Fact sheet	3-5 working days
Leptospira qPCR (blood or urine)	0.2ml EDTA blood or urine	qPCR for pathogenic Leptospira species	5 working days
Leptospira serology screen (MAT, Canine) *	1ml Serum	Ab titre reported on relevant Lepto serovars for UK. Please specify any foreign travel as other serovars may be appropriate	5-10 working days
Mycoplasma spp (qPCR)	Throat swab, ocular swab, trach wash or BAL, CSF, synovial or pleural fluid	qPCR for *M. felis* or *M. cynos/M. canis* Fact sheet	3-5 working days

Infectious Disease qPCR & Serology	Samples	Information	Turnaround times
Neospora antibody (IFA)	0.1ml Serum	Indirect fluorescent antibody test for *Neospora caninium* IgG antibodies	1-5 working days
Neospora antibody (IFA) & Toxoplasma IgG/IgM (IFA) (Canine/Feline)	0.2ml Serum	Indirect fluorescent antibody test for *Neospora caninium* IgG and *Toxoplasma gondii* IgG and IgM antibodies	1-5 working days
Neospora caninum (qPCR)	0.2ml CSF or tissue	Fact sheet	3-5 working days
Pan Bacterial (qPCR)	0.1ml Joint fluid, CSF		5 working days
Pan Fungal (qPCR)	Agar plate, cytobrush or swab		5 working days
Parvovirus (qPCR Canine/Feline)	1-2g Faecal sample, dorsal tongue swab, tissues including gut or lymphoid		3-5 working days
SARS-CoV2	Oropharyngeal swabs in VTM	Please contact the laboratory prior to submitting samples. Fact sheet APHA Guidance	3-5 working days
Strangles (Strep equi antibody ELISA) *	Serum		3-5 working days
Strangles (Strep equi PCR & culture & ELISA) *	Serum & nasopharyngeal swab or guttural pouch wash or chondroids or lymph node aspirate or Pus		5-7 working days
Strangles (Strep equi PCR & culture) *	Nasopharyngeal swab or guttural pouch wash or chondroids or lymph node aspirate or pus		5-7 working days
Strangles (Strep equi PCR) *	Nasopharyngeal swab or guttural pouch wash or chondroids or lymph node aspirate or pus		3-5 working days
Toxoplasma gondii (qPCR)	0.2ml CSF, BAL, effusion or tissue	Fact sheet	3-5 working days
Toxoplasma IgG/IgM (IFA) (Canine/Feline)	0.2ml Serum	Indirect fluorescent antibody test for *Toxoplasma gondii* IgG and IgM antibodies	1-5 working days
Tritrichomonas foetus (qPCR)	1-2g Fresh faeces. Samples should be received within 3 days of sampling	Ensure no cat litter is present Fact sheet	5-7 working days

*** Indicates test is performed at an external laboratory**

MOLECULAR DIAGNOSTIC UNIT

Acarus laboratory - Arthropod-Borne Infectious Disease PCR & Serology

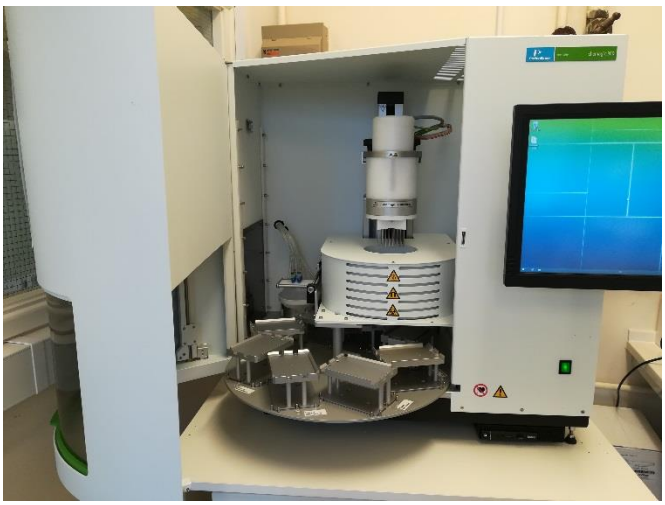
Our Acarus laboratory specialises in the detection of arthropod-borne microbial disease in companion animals. We have a dedicated Acarus email, acarus-lab@bristol.ac.uk, for any questions and clinical advice you require.

Arthropod-Borne Infectious Disease PCR & Serology	Samples	Information	Turnaround times
Anaplasma phagocytophilum (qPCR)	0.5ml EDTA blood and/or tissue aspirates in EDTA tube and/or fresh tissue biopsy material∞	Fact Sheet	3-5 working days
Babesia spp (qPCR)	0.5ml EDTA blood (or fresh tissue biopsy material∞ can be tested if available instead of blood e.g. splenic tissue)	Fact sheet	3-5 working days
Bartonella henselae (qPCR)	0.5ml EDTA blood and/or tissue aspirates in EDTA tube and/or fresh tissue biopsy material∞	Fact sheet	3-5 working days
Bartonella spp (qPCR)	0.5ml EDTA blood and/or tissue aspirates in EDTA tube and/or fresh tissue biopsy material∞	Fact sheet	3-5 working days
Borrelia spp (Lyme disease) (PCR)	0.5ml EDTA blood (but this is not an ideal sample due to low sensitivity); 0.5ml synovial fluid in EDTA tube or skin biopsy from the tick bite site	Fact sheet	3-5 working days
Ehrlichia/Anaplasma spp (PCR)	0.5ml EDTA blood and/or tissue aspirates in EDTA tube and/or fresh tissue biopsy material∞	Fact sheet	3-5 working days

Arthropod-Borne Infectious Disease PCR & Serology	Samples	Information	Turnaround times
Heartworm screen (*Dirofilaria immitis* antigen and modified Knott's microfilariae test)	1ml EDTA blood & 0.5ml serum	Detection of *Dirofilaria immitis* antigen in serum and examination for microfilaria (*Dirofilaria immitis* / *repens*) Fact sheet	1-2 working days
Hepatozoon spp (PCR)	0.5ml EDTA blood (or fresh tissue biopsy material∞ can be tested if available instead of blood e.g. splenic tissue)	Fact sheet	3-5 working days
Leishmania antibody	1ml EDTA blood or 0.5ml serum	Quantitative test reported in Enzyme Units	5-7 working days
Leishmania (qPCR)	0.5ml EDTA blood, lymph node aspirates in EDTA, splenic aspirates in EDTA, bone marrow aspirates or biopsy in EDTA, fresh tissue biopsy material∞, conjunctival swabs	Fact sheet	3-5 working days
SNAP®4Dx® serology screen: *D. immitis* Ag *E. canis* Ab *A. phagocytophilum* / *A. platys* Ab *B. burgdoferi* Ab	0.5ml EDTA or serum	Fact sheet	1-2 working days

∞ Fresh Biopsy material should be placed on saline soaked gauze material in a sterile container to keep moist. Formalin fixed specimens are not recommended in the first instance.

Other sample types e.g. CSF, ticks, fleas, formalin fixed samples, can be tested after discussion with the lab.



MOLECULAR DIAGNOSTIC UNIT

Feline Genetic PCR Testing

We are a leading laboratory in Europe for the genetic screening of cats. Dr Chris Helps heads the Cat Genetic Testing Service and is responsible for the research and development of new tests for genetic diseases and inheritable traits.

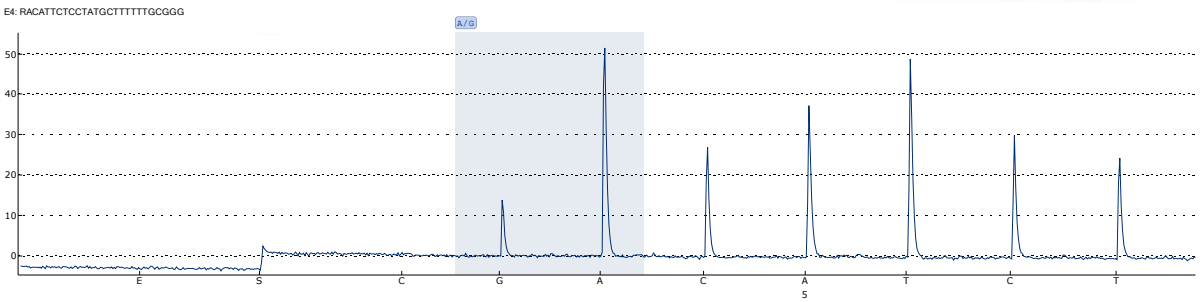
All genetic tests are normally run daily. The results are usually sent by email within 3 working days of us receiving your samples. These times can be subject to change (e.g. for bank holidays) and results may be delayed if the swabs are of poor quality and contain low levels of DNA.

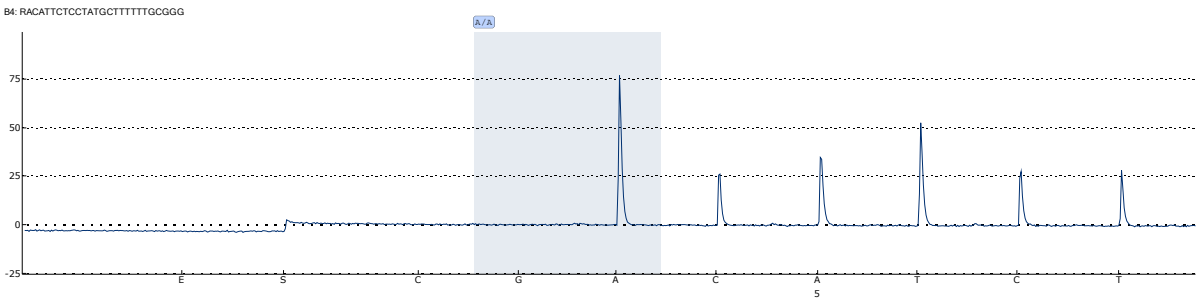
We accept mouth swabs or EDTA blood for all genetic tests listed below, with any combination of tests performed on a single sample.

Feline Genetic PCR Tests	Samples	Information	Turnaround times
Bengal Progressive Retinal Atrophy (PRA-b)	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
BSH Autoimmune Lymphoproliferative Syndrome (ALPS)	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Burmese GM2 Gangliosidosis	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Burmese Head Defect	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Burmese Hypokalaemia	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Congenital Myasthenic Syndrome (CMS)	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Glycogen Storage Disease IV (GSD IV)	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Korat GM1 Gangliosidosis	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Korat GM2 Gangliosidosis	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Maine Coon Hypertrophic Cardiomyopathy (HCM)	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days

Feline Genetic PCR Tests	Samples	Information	Turnaround times
Mucopolysaccharidosis VI (MPS VI)	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Persian Progressive Retinal Atrophy	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Polycystic Kidney Disease (PKD)	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Progressive Retinal Atrophy (rdAc)	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Pyruvate Kinase Deficiency (PKDef)	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Ragdoll Hypertrophic Cardiomyopathy (HCM)	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days
Spinal Muscular Atrophy (SMA)	0.5ml EDTA blood or buccal swab	Fact sheet	3 working days

Please click on the Fact sheet links for further information about the tests





MOLECULAR DIAGNOSTIC UNIT

Canine Genetic PCR Testing

Canine Genetic PCR Tests	Samples	Information	Turnaround times
Degenerative Myelopathy *	1ml EDTA blood or buccal swab	Multiple breeds	1-2 weeks
Demyelinating Tomaculous Polyneuropathy (Miniature Schnauzer)	1ml EDTA blood or buccal swab	Miniature Schnauzers	3 working days
Exercise Induced Collapse *	1ml EDTA blood or buccal swab	Multiple breeds	1-2 weeks
L2 Hydroxyglutaric Aciduria (L2-HGA) *	1ml EDTA blood or buccal swab	Staffordshire Bull Terriers	1-2 weeks
Multi Drug Resistance-1 (MDR-1) *	1ml EDTA blood or buccal swab	Multiple breeds	2-3 weeks
Neuronal Ceroid Lipofuscinosis (NCL) *	1ml EDTA blood or buccal swab	Dachsund	1-2 weeks

*** Indicates test is performed at an external laboratory**

Please use our dedicated cat genetics email, catgenetics@langfordvets.co.uk, for any queries regarding genetic testing and result interpretation.

MICROBIOLOGY

Our experienced microbiology technicians use a variety of specialised enrichment media, at different atmospheric and temperature conditions, to isolate bacteria and fungi from a variety of clinical samples. Identification is then carried out using conventional staining and biochemistry supported by Vitek 2 technology.

Where appropriate, antimicrobial sensitivity is carried out and minimum inhibitory concentration (MIC) values are reported along with an interpretation of the result. This provides the clinician with an additional tool in choosing the antimicrobial most likely to achieve therapeutic success. For a limited number of more fastidious isolates we will carry out a disc diffusion test to provide a qualitative result.

The bacteriology laboratory participates in a Quality Assurance Scheme (VETQAS) to ensure the ongoing reliability and quality of results.

Testing is complemented by a comprehensive range of qPCR assays.

Bacteriology, Mycology & Virology

Bacteriology & Virology	Samples	Information	Turnaround times
Aerobic & Anaerobic Culture & Sensitivity	Swab, tissue or fluid	Aerobic culture & anaerobic culture & antibiotic sensitivities by MIC (for significant isolate(s))	2-5 working days
Aerobic Culture & Sensitivity	Swab, wash or milk	Aerobic culture & antibiotic sensitivities by MIC (for significant isolate(s))	2-5 working days
Blood Culture	Blood or joint fluid	Extended enrichment culture for aerobic & anaerobic bacteria & antibiotic sensitivities by MIC (for significant isolate(s)). Sample must be submitted in a blood culture bottle	Up to 12 working days
Dermatophilus congolensis (Culture)	Scab	Extended culture for *Dermatophilus congolensis*	5 working days
Feline Herpesvirus/ Calicivirus Isolation *	Swab in viral transport medium	Viral culture for Herpesvirus and Calicivirus	10 working days

Bacteriology & Virology	Samples	Information	Turnaround times
FISH for all bacteria	Formalin-fixed tissue or wax blocks	Fluorescent in situ hybridisation (FISH)	2-8 working days
Mycobacterium Culture *	Tissue or fluid	Mycobacterium culture & sensitivity testing for significant isolate(s)	Up to 6 weeks
Mycobacterium PCR (M.tb complex) *	Tissue or fluid	Mycobacterium tuberculosis complex PCR & molecular rifampicin testing	Up to 2 weeks
Sheep Foot Rot PCR	Swab	qPCR for *Dichelobacter* or treponemes. Serotyping for *Dichelobacter* available	2-8 working days
Urine Culture & Sensitivity	10ml Urine	Aerobic culture & antibiotic sensitivities by MIC (for significant isolate(s)). Please specify capture method on submission form	2-4 working days
Ziehl-Neelson stain(s)	Faeces, tissue or fluid	Differential stain for Cryptosporidium	1-2 working days

*** Indicates test is performed at an external laboratory**

Mycology	Samples	Information	Turnaround times
Cryptococcus Antigen	0.2ml Serum or CSF	Qualitative lateral flow test. Positive samples can be sent to a reference lab for quantification at an additional cost	1-2 working days
Fungal Culture (non-dermatophytes) & Fungal sensitivity	Swab, skin, nail, tissue or fluid	Selective culture for non-dermatophytes. Full identification of isolates & sensitivity testing available at an additional cost	5 working days
Ringworm Culture (Dermatophytes)	Hair pluck	Selective culture for Ringworm	8 working days

MICROBIOLOGY

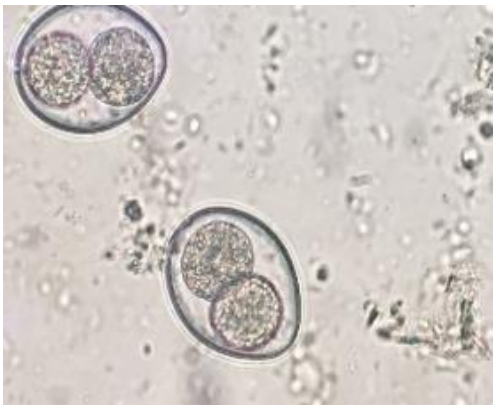
Faecal Bacteriology

We provide a range of selective and enrichment cultures and qPCR tests to detect faecal bacterial pathogens.

Faecal Bacteriology	Samples	Information	Turnaround times
Campylobacter screen (Culture)	1g Faeces	Selective microaerophilic culture for Campylobacter species. Speciation of positive cultures by qPCR is available at an additional cost	3 working days
Campylobacter speciation qPCR	1g Faeces	Detection & speciation of Campylobacter into pathogenic & non-pathogenic types by qPCR	2-8 working days
Clostridial toxins qPCR	1g Faeces	*C. difficile* Toxins A&B, or *C. perfringens* toxin qPCR	2-8 working days
Enteropathogenic E coli qPCR	1g Faeces	qPCR	2-8 working days
Faecal Bacteriology screen qPCR	1g Faeces	A qPCR for Salmonella, *Campylobacter jejuni*, *C. coli*, *C. upsaliensis* & *E. coli* pathovars EPEC, VTEC (stx 1 & 2), ETEC	2-8 working days
Faecal Culture	3g Faeces	Selective culture screen for Salmonella, Campylobacter	3-5 working days
Faecal screen 1	6g Faeces	Selective culture for Salmonella & Campylobacter & Faecal Parasitology	3-5 working days
Faecal screen 2	10g Faeces	Faecal screen 1 & *Tritrichomonas foetus* PCR (feline)	3-5 working days
Salmonella qPCR	2g Faeces	qPCR	2-8 working days
Salmonella Screen (Culture)	1g Faeces	Selective & enrichment culture for Salmonella spp.	3-5 working days

MICROBIOLOGY

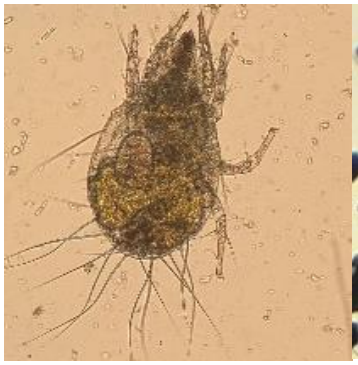
Parasitology

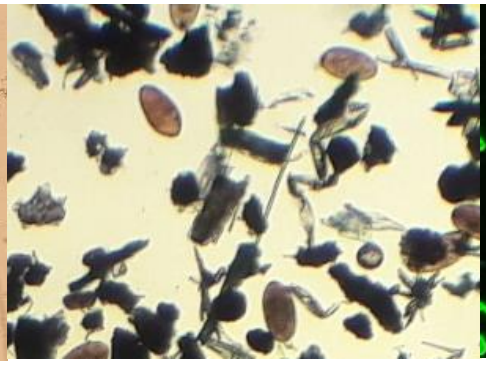


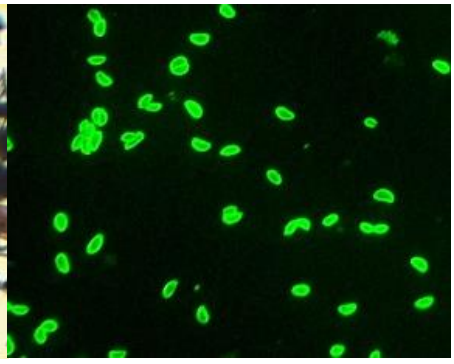
Our experienced technicians use a selection of antigen, microscopy, flotation and sedimentation techniques to detect parasites in blood, faeces, skin and hair.

The Diagnostic Laboratories also perform a number of qPCR and serology tests for different parasites. Please see the Infectious Disease qPCR & Serology section for more information on the tests available.

Parasitology	Samples	Information	Turnaround times
Faecal Parasitology (Camelids/Equine/Farm animals)	5g Faeces	McMaster Worm egg & Coccidial oocyst count	1-2 working days
Faecal Parasitology (Companion Animal & Exotics)	5g Faeces	Examination for faecal parasites (Worm eggs, Coccidial oocysts, Giardia cysts & Lungworm larvae) using zinc sulphate flotation technique	1-2 working days
Fluke Egg Screen	40g Faeces	Examination for Liver Fluke (*Fasciola hepatica*) & Rumen Fluke (*Paramphistomum* spp.) eggs using sedimentation technique. 40g is the optimal quantity of faeces. Samples of less than 10g may not be sufficient to detect eggs being shed in low numbers	1-2 working days
Lungworm (Baermann)	>10g Faeces	Baermann test for detection & identification of Lungworm Larvae	2 working days
Skin Parasites	Skin scrape	Microscopy & digest as appropriate	1-2 working days







MICROBIOLOGY

Guidance for Submitting Samples

Sample type	Guidance
All	Label clearly with the patient's name, site and sample type. State on the submission form any relevant antimicrobial treatment, clinical details or travel history
Faeces	Submit in a leak-proof screw top pot. Ensure you send sufficient samples for the test you are requesting
Fluids	Use a sterile, leak-proof container. To help recovery of anaerobic bacteria fill the container as much as possible
Skin scrape/Hair	If submitting a scalpel blade for skin parasites, ensure it is sent in a sealed plastic container, such as a sterile universal pot. Samples free of paraffin oil are preferred
Swab	Ensure all swabs are individually labelled and state clearly on the submission form which tests you would like done on each site. If you require anaerobic culture, submit a charcoal swab to help preserve anaerobic organisms
Tissue	Wrap small samples in sterile damp gauze to prevent drying out or send in sterile saline
Urine	Submit in a sterile screw top pot. If submitting a free-catch sample, send in a boric acid container (commercially available). Ensure you fill the pot in accordance with the manufacturer's instructions. For cystocentesis samples a plain tube is preferable. Please refrigerate samples if you are not able to send directly to the laboratory. State on the submission form the collection method to aid us in interpreting any bacterial growth

SUBMISSION AND REPORTING

When you submit samples to us, they will be received by our friendly office staff who will also be your point of contact for any queries.

If you are delivering urgent samples by hand, the office is located on the ground floor of the Churchill Building on the Langford Site of the University of Bristol.

Submission forms that cover all of our tests, along with our detailed Price List can be downloaded from our website.

We also provide FREEPOST envelopes, to order please contact us:

- Tel 0117 394 0510
- Fax 0117 928 9613
- Email labs@langfordvets.co.uk

For prompt receipt of your results, we will email out all reports to your practice. Our Clinical Pathologists are happy to discuss results from your cases with you.

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For further information on tests, samples and laboratory staff please visit our website: www.langfordvets.co.uk/diagnostic-laboratories

Limited Company, Incorporated in England and Wales No: 06798554
Langford Vets is proud to be a part of the University of Bristol

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