UNIVERSITY OF LIVERPOOL

Institute of Infection, Veterinary and Ecological Sciences

LIVERPOOL VETERINARY PARASITOLOGY DIAGNOSTICS (LVPD)

Price List 2023/24

liverpool.ac.uk/lvpd

We are the original red brick

Laboratory diagnostics at the forefront of emerging parasitic disease.

Welcome to our 2023/24 price list.

Exotic parasitic disease continues to be a problem in the UK but our work published in Equine Veterinary Journal '*Fasciola heptica* in UK horses', highlights how well-studied endemic parasitic disease can emerge as a previously under-recognised new threat. This is the first study to look at *Fasciola hepatica* (liver fluke) in the UK-wide horse population and it demonstrates that exposure to liver fluke occurs frequently in horses. It also indicates that liver fluke should be included as a diagnostic differential for horses with liver disease, especially those with a history of grazing on pastures used by sheep and cattle. The diagnostic ELISA developed through this work is the only one of its kind available in the UK and is exclusively offered by Liverpool Veterinary Parasitology Diagnostics (LVPD).

Following the retirement of Dr. Jackie Barber, we are delighted to introduce Dr. John-Graham-Brown and Dr. Alison Howell as our new joint clinical advisors and veterinary associates. John and Alison have worked closely with LVPD for several years and are now available to discuss your cases by appointment. In addition, Prof. Nick Evans is a new consultant to the service following the retirement of Prof. Stuart Carter.

We pride ourselves in delivering a quality, personalised and cost-effective service supported by expert clinical advice and internationally recognised academics within the University of Liverpool's Institute of Infection, Veterinary and Ecological Sciences. This is our continuing commitment to you, and we look forward to working with your practice to provide the best in patient care.

The team

Professor Diana Williams
BSc (Hons), PhD

Professor of Veterinary Immunoparasitology

Academic Lead

Diana obtained a BSc (Hons) in Zoology and a PhD in parasite immunology from the University of Nottingham, spent three years at the Cambridge Vet School working on calf pneumonia before going to the International Livestock Research Institute in Kenya where she spent eight years working on control of bovine trypanosomiasis (sleeping sickness or nagana), one of the most serious diseases affecting cattle in sub-Saharan Africa. She was appointed lecturer in veterinary parasitology at the Liverpool School of Tropical Medicine in 1994 and moved to the School of Veterinary Science, University of Liverpool, in 2008 as Professor of Veterinary Immunoparasitology.

Diana is head of the Veterinary Parasitology Research Group and leads a large research programme which aims to improve control of *Fasciola hepatica* (liver fluke) in sheep, cattle and horses.

Paul Gilmore
BSc (Hons)

Teaching and Research Technician

Technical Lead in Diagnostic Veterinary Parasitology

Paul has a Medical Microbiology degree from the University of Newcastle upon Tyne. Following a spell of work in the private sector, he was appointed as a diagnostic technician in Veterinary Parasitology at the Liverpool School of Tropical Medicine and subsequently the School of Veterinary Science, University of Liverpool. He was trained by expert veterinary parasitologists Dr. John McGarry, Professor Diana Williams and Professor Sandy Trees and has many years experience in diagnostic veterinary parasitology.

Paul is responsible for the day-to-day running of the service.

Dr. John Graham-Brown BVSc, MSc, PhD, MRCVS

Lecturer

Clinical Advisor and Veterinary Associate

John has a veterinary degree from the University of Liverpool with an intercalated MSc in veterinary parasitology. After 18 months in mixed animal practice, he returned to Liverpool to undertake a PhD in bovine fasciolosis. John currently works in the department of Livestock Health and Welfare, and works on parasitology, immunology and one health.

Dr. Alison Howell
BVSc, PhD, MRCVS

Postdoctoral Researcher

Clinical Advisor and Veterinary Associate

Alison qualified from the University of Liverpool Faculty of Veterinary Science and spent 5 years in private practice before returning to Liverpool in 2012 to do a PhD on the epidemiology of *Fasciola hepatica* (liver fluke). She currently works on projects aiming to improve the control of liver fluke and other parasitic and vector-borne diseases of livestock and horses.

Professor Nicholas Evans
BSc (Hons), PhD, FHEA

Professor of Veterinary Infection Biology

Consultant

Nick gained a BSc (Hons) in Biochemistry and briefly worked for a diagnostics company (Provalis) before completing a University of Manchester CASE PhD in 2004, which largely focused on Microbial Genetics/Molecular Biology/Biochemistry and included industrial placements at the National Institute for Biological Standards and Control.

Next, he joined the University of Liverpool as a Postdoctoral Researcher where he developed a keen interest in veterinary microbiology. He then gained a BBSRC 'Postdoctoral Researcher Co-Investigator' post at the School of Veterinary Science investigating host-pathogen interactions. Nick went on to be appointed as Lecturer in the University of Liverpool Department of Infection Biology in 2011 and gained a personnel chair in 2023. He leads a research group investigating spirochetal diseases.

During his PDRA posts Nick provided support for the Vetnostics service. He currently acts as a consultant for the LVPD *Borrelia burgdorferi* and *Bartonella henselae* tests, previously offered by Vetnostics.

Professor Ben Makepeace
BSc (Hons), MSc, PhD

Professor of Vector-Borne Diseases

Supporting scientist

Ben has a BSc in Biology with Oceanography from the University of Southampton, an MSc in Applied Parasitology & Medical Entomology from the Liverpool School of Tropical Medicine (LSTM), and a PhD in Molecular Microbiology from the University of Southampton. In 2001, he returned to LSTM as a postdoctoral scientist in the research group of Prof. Alexander (Sandy) Trees, where he studied the immunology and chemotherapy of onchocerciasis (river blindness) in Cameroon using a cattle model.

Ben joined the University of Liverpool in 2008 and now leads a research group dedicated to the study of the molecular biology and control of vector-borne diseases of humans and other animals, including onchocerciasis, scrub typhus and tick-borne diseases. He acts as an advisor on molecular diagnostics for LVPD.

Professor, the Lord Trees
BVM&S, PhD

Emeritus Professor of Veterinary Parasitology

Founder and former Academic Lead, now retired

Sandy qualified from Edinburgh's Royal (Dick) School of Veterinary Studies in 1969 and has a PhD on bovine babesiosis. In 1980 he was appointed Lecturer in Veterinary Parasitology at the University of Liverpool and became Head of the Parasite and Vector Biology Division at the Liverpool School of Tropical Medicine in 1994. He was Dean of Veterinary Science at the University from 2001 to 2008 and President of the Royal College of Veterinary Surgeons from 2009 to 2010.

Sandy is a world expert in Veterinary Parasitology. In a distinguished career, funded by over £15 million of external grants, he has produced 140 scientific papers and made major contributions to human and animal health through his research into a variety of parasitic diseases in temperate and tropical areas.

Small animals

Dogs and Cats

Test	Requirement	Turn around	Price	Test Code
SEROLOGY				
Neospora caninum antibody (dogs only)	0.5ml serum	1-3 days	£25.00	NEO
Toxoplasma gondii IgG and IgM	0.5ml serum	2-6 days	£35.00	TOXGM
Borrelia burgdorferi antibody†	0.5ml serum	2-6 days	£32.50	LYME
Bartonella henselae antibody†	0.5ml serum	2-6 days	£37.50	BART
TRAVELLING PETS				
Leishmania infantum antibody (dogs only)	0.5ml serum	1-3 days	£35.00	LEISH
Dirofilaria immitis antigen (dogs only)	0.5ml serum	1 day	£32.50	HWAG
Dirofilaria immitis microfilariae detection	See note	1-2 days	£30.00	HWMF
Dirofilaria immitis – species-specific acid phosphatase staining of blood microfilariae	See note	5 days	£40.00	HWAP
Ehrlichia canis antibody (dogs only)	0.5ml serum	1 day	£35.00	EHAB
Ehrlichia canis blood screen (dogs only)	See note	1-2 days	£25.00	EHBL
Babesia canis blood screen (dogs only)	See note	1-2 days	£20.00	BAB

Note: 0.5ml whole blood (EDTA)/fresh (unfixed) smears. Blood should be taken from a peripheral capilliary.

Test	Requirement	Turn around	Price	Test Code
FAECAL ANALYSIS				
A full screen for roundworm eggs (e.g. *Uncinaria, Toxocara, Toxascaris, Trichuris, Strongyloides, Capillaria*) and tapeworm eggs/segments *(Dipylidium, Taenia)*	1g fresh faeces	1-2 days	£15.00	FAE1
Isospora spp. oocyst screen	1g fresh faeces	1-2 days	£15.00	ISOS
Cryptosporidium spp. screen (microscopy)	1g fresh faeces	1-2 days	£20.00	CRPMC
Cryptosporidium spp. antigen test	1g fresh faeces	1-2 days	£25.00	CRPAG
Giardia spp. screen (microscopy)	1g fresh faeces	1-2 days	£18.00	GARMC
Giardia spp. antigen test	1g fresh faeces	1-2 days	£25.00	GARAG
Tritrichomonas foetus qPCR (cats only)	1-3g fresh faeces	1-7 days	£35.00	TRI
LUNGWORMS				
Baermann*	3g fresh faeces	1 day	£17.50	LW1
Lungworm screen*	Baermannised faecal fluid sputum, bronchoalveolar lavage	1 day	£17.50	LW2
Species identification *(Angiostrongylus, Crenosoma, F. osleri, F. hirthi, Aelurostrongylus)*	Preserved larvae	1 day	£35.00	LW3
*If larvae are detected, they will be identified to species level, incurring an additional charge.			£17.50	
PARASITE IDENTIFICATION				
Species identification of mature and immature nematodes and tapeworms; identification of parasites in tissue sections	Preserved specimen	1-3 days	£50.00	ID1
ECTOPARASITES				
Sample processing/species identification of mange mites e.g. *Sarcoptes, Demodex, Otodectes, Cheyletiella, Notoedres*.	Suitable sample	1-3 days	£30.00	ECTO1
Identification of lice and fleas	Preserved specimen	1-3 days	£30.00	ECTO2
TICKS AND PET TRAVEL SCHEME				
Identification of potential pathogen-carrying tick species found on worldwide travelled pets	Preserved specimen	1-3 days	£45.00	TICK

† Test previously offered by Vetnostics

Rabbits, Guinea Pigs, Rats, Mice and other pets

Test	Requirement	Turn around	Price	Test Code
FAECAL ANALYSIS				
Screen for helminth eggs and parasitic protozoa	1g fresh faeces	1-2 days	£15.00	FAE2
Identification and quantification of *Eimeria* spp. oocysts (rabbits)	3g fresh faeces	up to 1 week	£30.00	RAB
PARASITE IDENTIFICATION				
Species identification of helminths	Preserved specimen	1-3 days	£50.00	ID2
ECTOPARASITES				
Sample processing/species identification of mange mites e.g. *Sarcoptes, Demodex, Otodectes, Cheyletiella, Notoedres*.	Suitable sample	1-3 days	£30.00	ECTO1

Large animals

Cattle, Sheep, Goats, Pigs, Camelids and Horses

Test	Requirement	Turn around	Price	Test Code
SEROLOGY				
Borrelia burgdorferi (horses only)†	0.5ml serum	2-6 days	£32.50	LYME
Fasciola hepatica antibody (horses only)*	0.5ml serum	2-6 days	£45.00	FHAB
*Antibody and faecal test package is available. Contact us for further details.				
FAECAL ANALYSIS				
Quantification of roundworm and tapeworm eggs, and coccidial oocysts	3-5g fresh faeces	1-2 days	£15.00	FAE3
Cryptosporidium spp. screen (microscopy)	1g fresh faeces	1-2 days	£20.00	CRPMC
Cryptosporidium spp. antigen test (horses, cattle, sheep, goats and pigs)	1g fresh faeces	1-2 days	£25.00	CRPAG
Giardia spp. screen (microscopy)	1g fresh faeces	1-2 days	£18.00	GARMC
Giardia spp. antigen test (horses, cattle, sheep, goats and pigs)	1g fresh faeces	1-2 days	£25.00	GARAG
Fasciola hepatica faecal egg count reduction test pre-treatment (sheep only)	See online	1-7 days	£50.00	FECRT1
Fasciola hepatica faecal egg count reduction test post-treatment (sheep only)	See online	1-7 days	£50.00	FECRT2
Dictyocaulus viviparus and *Dictyocaulus filaria* using the Baermann technique	1-3g fresh faeces	1-2 days	£30.00	DICT
Oxyuris equi eggs	Adhesive tape	1-3 days	£15.00	OXY
Fasciola hepatica and rumen fluke egg screen	10g fresh faeces	1-2 days	£20.00	FASC
Fasciola hepatica coproantigen test (cattle and sheep)	5g fresh faeces	2-6 days	£15.00	FHCAG
Fasciola hepatica composite faecal egg count (cattle and sheep)	10 x 10g	1-3 days	£40.00	FHCOMP
Nematode composite faecal egg count (cattle and sheep)	10 x 10g	1-3 days	£25.00	NCOMP
PARASITE IDENTIFICATION				
Identification of helminths	Preserved specimen	1-3 days	£50.00	ID3
ECTOPARASITES				
Sample processing/species identification of mange mites e.g. *Sarcoptes, Demodex, Otodectes, Cheyletiella, Notoedres*.	Suitable sample	1-3 days	£15.00	ECTO1

† Test previously offered by Vetnostics

Exotic pets, zoo animals and wildlife

Test	Requirement	Turn around	Price	Test Code
FAECAL ANALYSIS				
Screen for helminth eggs and parasitic protozoa	1-3g fresh faeces	1-2 days	£25.00	FAE4
Giardia spp. antigen test (birds and reptiles)	1g fresh faeces	1-2 days	£25.00	GARAG
Cryptosporidium spp. antigen test (birds and reptiles)	1g fresh faeces	1-2 days	£25.00	CRPAG
Parasite identification				
Identification of helminths	Preserved specimen	1-3 days	£50.00	ID4
ECTOPARASITES				
Sample processing/species identification of mange mites e.g. *Sarcoptes, Demodex, Otodectes, Cheyletiella, Notoedres*.	Suitable sample	1-3 days	£30.00	ECTO1

Additional Information

Please ensure that all samples are sent in accordance to UN3373 P650 packaging instruction requirements.

In addition, please note the following:

- All sample containers must be clearly labelled
- Faecal samples should be sent in a screw-cap universal container
- Slides should be clearly labelled and sent in a robust, secure container
- Do not send live specimens in the post. Use a suitable preservative and send in a screw-cap container
- Do not send CSF samples, or haemolysed or lipemic serum samples (our assays have not been validated to test these samples)
- Do not use heparin as an anti-coagulant. Use EDTA where it is a test submission requirement
- All samples should be fresh and submitted as soon as possible
- Where serum is required, please separate whole blood. If this is not possible, then avoid sending whole blood on Fridays or Saturdays
- If samples are received in a condition unsuitable for testing, then we will request a replacement
- *Tritrichomonas foetus* qPCR faecal samples should be frozen if submission is delayed.

If you are not sure of the correct way to process a sample prior to sending, then please call for guidance.

All samples should be accompanied by a **fully** completed submission form (please include all relevant details). Lack of information may delay turn around time.

Personalised electronic submission forms are available upon request.

Turnaround times may vary and refer to working days.

Please contact us if you have an urgent request.

Reports are routinely sent by email or telephone upon request.

Discounts are available for bulk samples – please contact the lab to discuss your requirements.

Prices are effective from **3rd April 2023** and are subject to change without notice.

We will consider all parasitological-related requests but please contact the lab in advance.

All submissions are kept for a minimum of seven days after results are reported and may be retained for teaching purposes.

All prices are subject to VAT at the normal rate of 20%.

If your organisation is eligible for VAT relief, please enclose the relevant exemption certificate with your submission form.

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Liverpool Veterinary Parasitology Diagnostics (LVPD)

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Monday to Friday 9.00am – 5.00pm