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Pathology User Manual

Microbiology Investigations

Virology and Serology

[PD-MIC-UMVirolSerol]

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Virology and Serology

See also the Pathology Department Test List

Virology Swabs

Referred depending on test request detailed in table 1. Green topped swab.

Chlamydia/GC NAATs Swabs

Performed in-house. See Chlamydia/GC section for instructions on use of specific collection kit.

Blood tests

Specimen requirements: A clotted blood sample in a gold top tube is generally required for all virology/serology investigations. Viral load and genotypic resistance tests require EDTA blood samples. Please see specific investigations for further details.

The request form must show all relevant clinical details including date of onset; date of exposure; date of LMP; EDD; occupational; vaccination; and travel history; as appropriate.

Add-on testing. An aliquot of serum is stored when possible. All verbal requests for add-on testing must be confirmed in writing. Please send in a further request form detailing which extra tests are required. This form must state the identity of the healthcare professional requesting the test(s) and that the "blood is already in the laboratory". Where possible add the laboratory number of the serum.

The in-house serology repertoire is as follows:

Blood Test (in-house)	Sample requirements	UKAS scope
Anti-Streptolysin O	Clotted blood (gold-topped or red paediatric)	Yes
Hepatitis A IgG	Clotted blood	Yes
Hepatitis A IgM	Clotted blood	Yes
Hepatitis B surface antibody *	Clotted blood	Yes
Hepatitis B surface antigen and confirmation	Clotted blood	Yes
Hepatitis B core antibody	Clotted blood	Yes
Hepatitis C antibody	Clotted blood	Yes
HIV antibody/antigen ¹	Clotted blood	Yes
HIV-1 viral load ^{2*}	2x EDTA	No
Ante-Natal screening (HIV, Hepatitis B surface antigen and Syphilis IgG/IgM)	Clotted blood	Yes
CMV IgM	Clotted blood	Yes
CMV IgG	Clotted blood	Yes
EBV full panel (EBNA IgG, VCA IgG and VCA IgM)	Clotted blood	Yes
Toxoplasma IgG/IgM	Clotted blood	Yes
VZV IgG ³	Clotted blood	Yes
Rubella IgG	Clotted blood	Yes
Rubella IgM	Clotted blood	Yes
Syphilis IgG/IgM, TPPA and RPR	Clotted blood	Yes
Measles IgG	Clotted blood	Yes
RSV	Naso-pharyngeal aspirate	Yes
Legionella urinary antigen	Urine sample (boric acid or white top)	Yes
Store serum or plasma	Clotted blood or EDTA	Yes

*The clinical decision value is reported with each result.

¹ HIV Testing

View : Trust policies on Infection Control and Blood Borne Viral Infections

- Please refer to the UK National Guidelines for HIV Testing (2008) for further information including obtaining consent
- Tests for HIV will only be performed if the request form contains the requestor's signature.
- Same-day HIV testing is performed following discussion with laboratory staff Monday-Friday. Bloods must reach the laboratory by 11am and results will be available between 2 and 3pm.

² HIV-1 Viral load quantitation

The laboratory needs to centrifuge and separate the plasma from the blood within 24 hours of the sample being collected.

Ensure

- HIV-1 Viral load samples must be taken and transported to the laboratory to arrive on the same day.
- HIV-1 Viral load samples must not routinely be taken over the weekend. If clinically required please discuss with the laboratory.

³ Varicella Zoster (chicken pox) serology

If patient pregnant or immunocompromised: post contact VZV IgG antibody screen request must be received as soon as possible and before a maximum of 10 days post contact.

Indications

VZV IgG for detection of immunity

Directions

Acute VZV (chicken pox/shingles) is usually diagnosed clinically. A green- topped (viral) swab sent for PCR of the lesion contents is the best diagnostic tool

VZ immunoglobulin (VZIG) for treatment of non-immune contacts with a case of VZV infection is restricted to the immunocompromised, pregnant women and neonates and is only available once a quantitative VZV IgG result is available (Referred test) and after discussion with the Consultant Microbiologist.

Table 3: SEROLOGY REFERRED TESTS

Investigation	Referred to	Notes
Adenovirus PCR viral load	Viapath Kings College	EDTA sample
Amoebic serology	Liverpool School Of Tropical Medicine (LSTM)	
Antibiotic assay - Amikacin	Antimicrobial Reference Laboratory (AMRL)	
Antibiotic assay – Teicoplanin	Antimicrobial Reference Laboratory (AMRL)	
Antibiotic assay – Tobramycin	Antimicrobial Reference Laboratory (AMRL)	
Antifungal assay – Itraconazole	Mycology Reference Laboratory Bristol (MYRL)	
Antifungal assay – Fluconazole	Mycology Reference Laboratory Bristol (MYRL)	
Miscellaneous antimicrobial assay	As appropriate	Various
Aspergillus IgG	Viapath Kings College	
Avian IgG	Viapath Kings College	
Beta-D-Glucan	Viapath Kings College I.S.	
Bordetella Pertussis	Bristol	
Borrelia burgdorferi (Lyme)	RIPL Porton Down	Please provide tick exposure history.
Brucella Abs	Liverpool School Of Tropical Medicine (LSTM)	Please provide contact history
Chlamydia antibody	Bristol	
CMV DNA viral load	Viapath Kings College	EDTA sample
CMV DNA (urine)	Viapath Kings College	Only in <1 yr. olds
CMV IgM (confirmation)	Viapath Kings College	
Coxsackie B/Enterovirus (IgM)	Virology, St Helier Hosp.	
Cryptococcal Ag	Leeds Mycology ref Unit	
Dengue (Flavivirus)	RIPL Porton Down	
Diphtheria – immune status	PHEColindale bacteriology	
EBV IgG/IgM (confirmation)	Viapath Kings College	
EBV PCR viral load	Viapath Kings College	EDTA sample
Enterovirus PCR	Viapath Kings College	Viral swab
Farmers lung	Leeds Mycology ref unit	
Filaria Serology	Liverpool School Of Tropical Medicine (LSTM)	
Flavivirus Serology	RIPL Porton Down	
Functional Abs (Haemophilus, tetanus, pneumococcal)	Viapath Kings College	
Galactomannan	Viapath Kings College I.S.	
Haemophilus Abs	Viapath Kings College	
Helicobacter pylori (stool)	Viapath Kings College	Stool sample
Hepatitis A confirmation	Colindale (V)	
Hepatitis B confirmation + markers	Viapath Kings College	
Hepatitis B DNA (viral load)	Frontier pathology Brighton	EDTA sample
Hepatitis B Genotype	Micropathology	EDTA sample
Hepatitis C RNA (viral load)	Viapath Kings College	EDTA sample
Hepatitis C confirmation	Viapath Kings College	
Hepatitis C Genotype	Micropathology	EDTA sample
Hepatitis D	PHE Colindale virology	
Hepatitis E	PHE Colindale virology	

Investigation	Referred to	Notes
Herpes simplex (serology)	Southampton virology	
Herpes simplex DNA	Viapath Kings College	Viral swab
Herpes simplex DNA PCR	Micropathology	EDTA sample
HIV confirmation	Viapath Kings College	
HIV Avidity	PHE Colindale virology	
HIV Resistance	PHE Colindale virology	EDTA sample
HIV proviral DNA	PHE Colindale virology	EDTA sample
Histoplasma	Mycology Reference Laboratory Bristol (MYRL)	
HTLV	Viapath Kings College	
Hydatid (Serology)	Liverpool School Of Tropical Medicine (LSTM)	
Leishmaniasis	Liverpool School Of Tropical Medicine (LSTM)	
Leptospira (Weils disease)	RIPL Porton Down	
LGV	Colindale (B)	Viral swab
Lyme disease	RIPL Porton Down	Tick exposure history needed
Malaria Abs	Parasitology, HTD London	Rarely indicated. Thick and Thin films mandatory
Measles IgM (serum)	Virology Royal Preston Hospital (RPH)	
Measles PCR (viral swab)	PHE Colindale virology	Viral throat swab
Meningococcal PCR	Manchester	EDTA sample
Meningococcal Abs	Manchester	
Mumps IgM (serum)	Virology Royal Preston Hospital (RPH)	
Mumps PCR (viral swab)	Brighton	Viral throat swab
Mycoplasma genitalium	Brighton	Male plain urine pot. Female viral cervical swab.
NAD (Respiratory)	Brighton	Viral swab Includes 'Flu testing
NAD (Eye)	Viapath Kings College	Viral swab
NAD (Vesicular rash)	Viapath Kings College	Viral swab
NAD (Non vesicular rash-measles)	Frontier pathology Brighton	Viral swab
NAD (Mumps)	Frontier pathology Brighton	Viral throat swab
NAD (Genital ulcer)	Viapath Kings College	Viral swab
Parvovirus IgG/IgM	Viapath Kings College	
Pneumocystis jirovecii /PCP	Micropathology	BAL/sputum/induced sputum
Pneumococcal Abs	Viapath Kings College	200
Polyoma BK virus	Micropathology	EDTA sample
Coxiella burnetii (Q-fever)	RIPL Porton Down	
Rickettsia (Typhus/Spotted fever)	RIPL Porton Down	
Rubella IgM (confirmation)	Viapath Kings College	
Schistosomal Abs (Bilharzia)	Liverpool School Of Tropical Medicine (LSTM)	
Strongyloides antibodies	Liverpool School Of Tropical Medicine (LSTM)	
Syphilis(confirmation)	PHE Bristol virology	
Syphilis PCR	Micropathology	CSF,GU SWAB

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T-Spot (TB)*	Oxford Immunotec	2x Lithium Heparin to arrive SRH Microbiology Mon-Thurs. by 15:30
Tetanus Abs	Viapath Kings College	
Toxocara Abs	Parasitology HTD London	
Toxoplasma (confirmation)	Toxo Ref unit Swansea	
Viral Meningitis (HSV VZV ENT PCR)	Micropathology	CSF
VZV IgG (confirmation)	Southampton virology	
VZV DNA (viral swab)	Viapath Kings College	Viral swab
West Nile Fever (Flavivirus)	RIPL Porton Down	
Yellow Fever (Flavivirus)	RIPL Porton Down	

Referred Viral loads (Hepatitis B, Hepatitis C, Adenovirus, CMV and EBV)

Directions

EDTA sample (lilac/purple topped bottle)

The laboratory needs to centrifuge and separate the plasma from the blood within 24 hours of the sample being collected.

Ensure

- Viral load samples must be taken and transported to the laboratory to arrive on the same day.
- Viral load samples must not routinely be taken over the weekend. If clinically required please discuss with the laboratory.