THE DOCTORS LABORATORY

Laboratory Guide 2022

Valid from 1st January 2022

Cover: Alistair Lam, BMS, performing an agglutation test
for anti streptolysin antibodies.

TAP4942B/14-03-22/V3

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TDL Customer Charter

We are committed to being the most helpful pathology service in the UK. Our goal is always to provide a high level of service to our customers, who request pathology services, for their patients. This is a philosophy shared by all Sonic Healthcare Pathology practices. We are medically led, and patients are our first concern. We always try to look to improve our operational expertise, and we strive to provide professional leadership within our specialities.

We promise to provide easy access to our pathology services

- We will always provide a friendly, helpful service.
- Our automated laboratory departments operate 24 hours a day, 7 days a week, and we aim to achieve, or improve, our published turnaround times.
- Our medical consultants and laboratory teams are available to provide additional clarification, advice or information for tests or results.

We promise to help you

- We invest in technical and operational excellence, with an extensive test repertoire, to ensure access to a leading-edge laboratory service.
- We return results using the reporting method choice, in an as organised and safe way as possible.

We promise to support the communities we work in

- We do our utmost to provide a service, even during extreme external disruptions beyond our control.
- We are committed to our staff's continued professional development.
- We have an organised programme to provide young people with work experience.
- We support our local community.

We promise to listen

- We acknowledge customer issues, and try to resolve them promptly and consistently.
- If our delivery has been adversely affected, we will address and review our procedures so that our service reaches the highest standards.
- We actively ask for feedback so that we can continue to improve our service.

Complaints policy

It is the aim of the company to maintain its core values. Two of these core values are:

- Commit to service excellence.
- Be enthusiastic about continuous improvement.

Where a doctor or patient needs to raise a complaint about service levels they should contact Cyril Taylor, Director of Laboratory Compliance, or Annette Wilkinson, Director of Service at tdlservice@tdlpathology.com giving details of the complaint.

The information forwarded will be treated as confidential and investigated by the above persons. This process will link into Quality Management procedure for incident investigation. Corrective and preventative actions will be introduced where indicated.

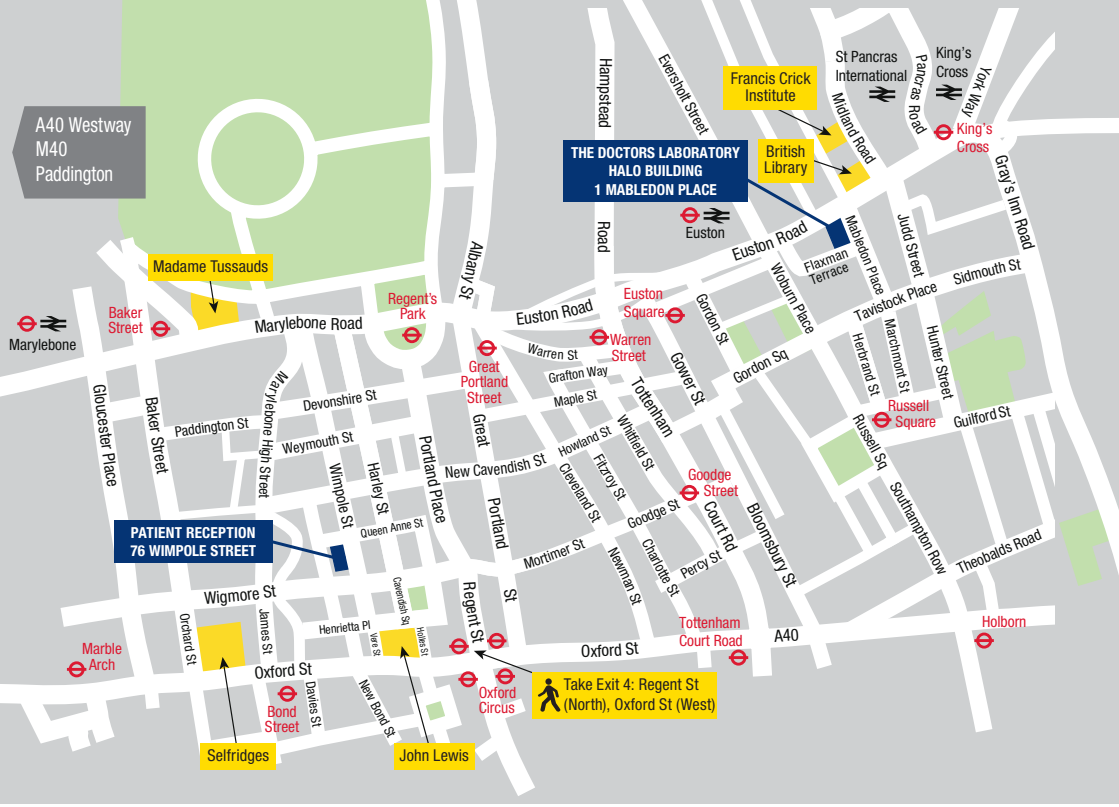
Contents

Index of TDL Profiles

TDL SCREENING PROFILES

TDL SPECIFIC PROFILES

Personal Profiles (Doctor's own) are available on request.



THE DOCTORS LABORATORY

The Halo Building, 1 Mabledon Place, London WC1H 9AX
Tel: 020 7307 7373
Email: tdl@tdlpathology.com
Web: www.tdlpathology.com

PATIENT RECEPTION/PHLEBOTOMY SERVICES

76 Wimpole Street, London W1G 9RT
Telephone: 020 7307 7383
Email: patientreception@tdlpathology.com

OPENING TIMES

Monday to Friday 7.00am – 7.00pm
Saturday 7.00am – 1.00pm

Out-of-hours samples can be dropped at:

Patient Reception
76 Wimpole Street
London W1G 9RT

Or at any time at the main laboratory:

The Halo Building
1 Mabledon Place
London WC1H 9AX

Phlebotomy Services are only available at Patient Reception, 76 Wimpole Street.

Samples cannot be taken at The Halo Building.

THE DOCTORS LABORATORY (MANCHESTER)

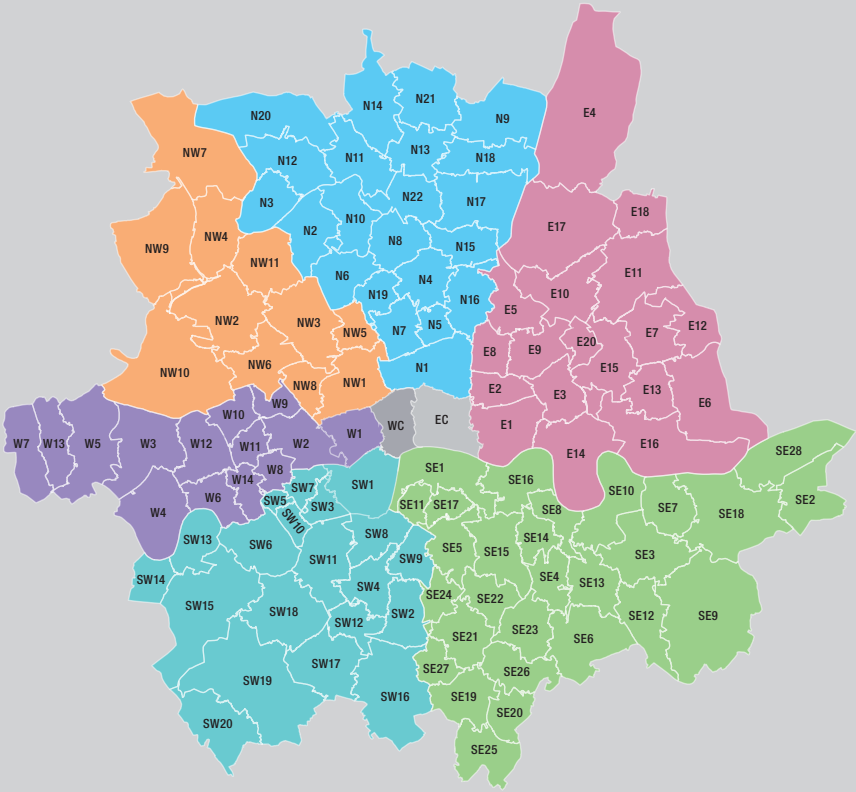
Regents Place, 4 Windsor Street
Salford M5 4HB

Tel: 0161 332 7181
Web: www.tdlpathology.com

Samples can be dropped
at the laboratory at any time.

COURIER COLLECTIONS

Tel: 0161 332 7187



TDL COLLECT: SPECIMEN COLLECTION SERVICES BY COURIER

TDL COLLECT provides a dedicated medical sample collection service (vans by arrangement) on a scheduled or ad hoc basis.

No charge is made for collections from practices within the M25. Collections from patients' or doctors' private addresses are by special arrangement only.

The courier collection service for Inner London postcodes operates on a 24/7 basis, as shown. Postcodes extending beyond to the M25 operate from 9.00am to 8.00pm. Outside the M25, and throughout the UK, sample collections are by arrangement and may incur courier charges.

TDL Collect Online Courier Booking is a time-saving option for arranging couriers for sample collection: **www.tdlpathology.com/couriers**

Please contact couriers@tdlpatholgy.com for your practice's secure login and password.

High-risk samples should be clearly labelled and packed separately from other samples.

TDL's couriers cannot transport samples containing Hazard Group 4 Pathogens such as Ebola Fever or Viral Haemorrhagic Fever.

TDL COLLECT UK: 020 7307 7373

Helpful information

The Laboratory Guide is designed to give you an easy-to-use reference for the most regularly requested services, pathology profiles and tests. If you are not able to find details for tests and services, please contact the laboratory on 020 7307 7373. We continue to develop a wide range of test and patient services and our aim is to offer commitment to customer service, strong working relationships and help and support for referring doctors and their practices.

For details about all services, please contact the laboratory on 020 7307 7373, or for more information visit www.tdlpathology.com.

LONDON LABORATORY TIMES: 24 HOURS

A wide range of analytical services are run 24/7 but not all tests or departments operate through the night, weekends or bank holidays.

No surcharges are made unless there are special arrangements for services requiring additional resources.

Outside of Patient Reception hours, samples may be dropped off at 76 Wimpole Street, London W1G 9RT, or at The Halo Building, 1 Mabledon Place, London WC1H 9AX (see map on page 4).

MANCHESTER LABORATORY TIMES: 24 HOURS

Samples can be dropped off at Regents Place, 4 Windsor Street, Salford M5 4HB (see page 5) at any time.

MANCHESTER TURNAROUND TIMES

Tests not processed at our laboratory in Manchester will be referred to the TDL Main laboratory. If you need information about turnaround times, please contact the laboratory.

PATIENT RECEPTION TIMES

Patient Reception is at:

76 Wimpole Street, London W1G 9RT

Monday to Friday 7.00am – 7.00pm, Saturday 7.00am – 1.00pm

Direct line tel: 020 7307 7383 Email: patientreception@tdlpathology.com

Appointments are only necessary if a patient needs specialised investigations or care. Patients should always bring a request form or referral letter with them. Instructions can be telephoned ahead of the patient's attendance, if this is more convenient.

Sample-taking is undertaken by qualified phlebotomy staff for which a standard sample-taking fee of £45.00 is charged to patients. Doctors and clinics are charged £25.00 for each patient. Sample-taking services for Extended Tests (see page 133) and Drugs of Abuse with Chain of Custody (see page 157) are routinely available.

Cervical cytology, HVS and cervical swabs are not taken at 76 Wimpole Street.

Patient Reception sample-taking services are not available in Manchester.

Helpful information

SEMEN ANALYSIS

Semen samples need specialist handling within the laboratory. For this reason all requests for Semen Analysis must be made by appointment. Practices or patients can make an online appointment at **www.tdlpathology.com/andrologybooking** or call **020 7025 7940** to make appointments and confirm instructions for sample collection. There is an attendance fee of £45.00.

1 Patients must abstain from ejaculation for at least 2 days but not longer than 5 days before the test.

2 Ideally semen samples should be produced at The Doctors Laboratory, 76 Wimpole Street, unless there are exceptional circumstances. In these exceptional circumstances please contact TDL Andrology on 020 7025 7940 for special arrangements and instructions. Refer to Andrology, see page 62.

Semen Analysis services are not provided in Manchester.

PATIENT REQUEST FORM

To comply with good clinical practice it is important that there is one request form for each patient's request, and specimens and form are correctly and fully labelled, to include three unique patient identifiers:

- First name, Surname, Date of birth, Hospital/ Clinic number, Medical Record Number (MRN) are examples of patient identifiers
- Time and Date of collection of samples
- Type of sample and Anatomical site, where appropriate (e.g. swabs)
- Relevant clinical information
- Relevant details of medication
- High-Risk Samples should be clearly identified on the form and individually packed separately from other samples
- Hazard Group 4 pathogens (such as Ebola or Viral Haemorrhagic Fever) must not be sent to the laboratory – please contact the National Fever Service on 0844 778 8990 for advice before sending samples to the laboratory.

If additional tests are required for a sample already received please contact the laboratory on 020 7307 7373 with your request for specific further analysis. Samples are stored within timeframes according to their discipline. Laboratory staff will advise on the ability to undertake further testing from samples already received in the laboratory.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Helpful information

EMAILED REQUESTS FOR ADD ONS

The majority of samples received in the laboratory are kept for one week. If sample type and volume allow, further testing can be requested by telephone on **020 7307 7373** or by email to **addons@tdlpathology.com**. Please specify the details of the test(s) details to be added; Patient details and LABORATORY NUMBER also need to be given with emailed requests.

HOME VISITS

This service is available for patients who, for whatever reason, prefer samples to be taken at home or at locations other than a doctor's practice or TDL's Patient Reception at 76 Wimpole Street, London. This is a service that is used regularly to save time for both doctors and patients and ensures that results can be made available before consultation is undertaken.

There is a visit fee from £120.00 to patients within the M25, and from £160.00 for children when two nurses are needed. Home visits outside the M25, for weekends, bank holidays and night fees are by special arrangement. To arrange a Home Visit please telephone Patient Reception on **020 7307 7383** or email **homevisits@tdlpathology.com**.

SAMPLE PACKING

Samples need to be transported for subsequent processing and testing. Transport systems will be various and cover both long or short distances.

Samples need to be collected and packed into appropriate sample containers provided by the laboratory in order to maintain integrity of the sample(s). Attention needs to be given to temperature, special transport containers and time limitations.

Clinics, practices and laboratories who are posting or transporting samples by air, sea, rail and road between local, regional and reference laboratories, or between laboratories in other countries, must adhere to a number of regulations. These regulations are designed to deal with transportation accidents and spills, reduce biohazards and keep samples intact for testing.

Regulations are given by several sources including

- National transport regulations
- IATA
- Rail and road traffic agencies
- Postal services

Compliance is mandatory in order to reduce risk to couriers, carrier, laboratory staff and passengers.

Sample transport requirements are based on the category of samples being transported. Infectious substances are classified as Category A or Category B.

TDL does not arrange for transport of Category A samples (infectious substances capable of causing permanent disability or life-threatening or fatal disease to humans or animals).

Instruction and packaging for Category B is provided, covering Biological Substances, UN number UN 3373.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Helpful information

PACKAGING REQUIREMENTS

There are specific packaging instructions and labelling requirements requiring triple packaging.

1 Primary leak-proof container – tube or vial containing the sample must be placed inside a ziplock specimen bag with absorbent material

2 Secondary watertight container, with absorbent material, intended to protect the primary container

3 Outer container protects the secondary container.

There are specific packaging instructions for frozen samples requiring shipment using BioFreeze bottles, or Dry Ice.

For information please contact the Referrals Dept (ReferralsOffice@tdlpathology.com)

POSTAL PATHOLOGY

Royal Mail Tracked 24®

Postal pathology services should be considered by all practices in the UK who need a rapid delivery service to the laboratory. Changes with Royal Mail mean that ALL pathology postal packs are now made up with **Tracked 24 returns**. This provides a particularly suitable method of transport for any healthcare organisation. Postal pathology with **Tracked 24 returns** provides:

- Simple and convenient sample handling throughout the UK for most tests. It is not suitable for microbiology or coagulation samples
- Scope for large and small numbers of samples
- Next morning delivery
- Allows patients and practices to track samples through the Royal Mail system
- Samples can be posted from any Royal Mail post box, including COVID-19 antibodies
- Designated **Priority boxes** for COVID-19 PCR (swab) kits
- There is a charge of £2.26 for each Royal Mail Tracked 24 pack. This charge will be itemised in monthly invoices to the practice or patient, as requested.

DX SYSTEM

DX is a well known next-day courier of Category B specimens – transporting biological samples in compliance with the industry's highest regulations. DX is compliant to IATA regulations, is audited independently by Dangerous Goods Safety Advisors. They work with a combination of large health organisations and smaller, independent laboratories to ensure the safe delivery of specimens every year.

TDL's DX Address is **DX 340201, St Pancras 90 WC**.

PATHOLOGY CONSUMABLES / REQUEST FORMS / POSTAL PACKS

Our Stores Department provides all appropriate sample collection consumables required for sample collection. Orders will be sent same or next day and can be made by telephone (020 7307 7373) or email (supplies@tdlpathology.com). There is a Supplies Order Form at the back of this Laboratory Guide.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Helpful information

REQUESTING AND REPORTING OPTIONS

We continually review and update our IT Services for receiving requests and reporting results electronically between practices and the laboratory. A number of innovative report formats are now available.

• Encrypted Email

Results will be sent in encrypted format to any number of predetermined email addresses. Copy reports will be emailed automatically to email addresses on the system.

• Link to Practice Management System

Bidirectional requests and results can be delivered electronically to a number of integrated practice systems. Practice software that accepts data in an HL7 format can be linked to receive results from the laboratory.

All TDL systems are accredited to the latest International Standard for Information Security ISO/IEC 27001:2013.

• TDL e-View

Registered users can view all their results online. This is a secure Login/Password protected look-up system, with a cumulative results reporting function. Results can be accessed any time, from anywhere, through the internet.

• Printed Copy

Results are posted out on the day they are reported.

• TDL Portal

This provides the most accurate option for clinics without a practice management system. For information about this option please contact **portal@tdlpathology.com**.

EMAILED RESULTS INCORPORATING YOUR LOGO

If your practice or company receives results by email, and would like these personalised with your logo, simply email your company details and logo in GIF format to **logo@tdlpathology.com**.

TDL WEBSITE

The TDL website at **www.tdlpathology.com** gives updated details of our tests – sample types, turnaround times and special instructions. The Specialities section provides a new way to find tests you need, and a Services section has additional information for TDL Collect, Postal Pathology and TestGuide app. Reference Ranges are given on the website or can be requested by emailing **refranges@tdlpathology.com**. Full details of our tests and profiles are also available in the TDL TestGuide app (see page 12).

TDL PATHOLOGY HANDBOOK

With more than 1000 entries and 1100 pages covering pathology tests, methods and disease conditions, the Handbook provides comprehensive detail about the range of tests and services offered by the laboratory. Email **handbook@tdlpathology.com** for more information. The Handbook is also available in the TDL TestGuide app (see page 12).

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Helpful information

TDL TESTGUIDE APP

Available for iOS and Android, the TDL TestGuide app offers:

- Full details of TDL's tests and profiles
- The TDL Pathology Handbook, which provides information on more than 1000 pathology topics, reflecting our deep collective knowledge across all areas of pathology

The app can be downloaded from the Apple App Store or Google Play Store. To register for the app, you will just need your TDL Source Code and an email address. Please contact **testguide@tdlpathology.com** if you need help with finding your Source Code.

Feedback for the TestGuide app and Pathology Handbook and is always welcome; please send suggestions and comments to **tdl@tdlpathology.com**.

FEES FOR PATHOLOGY

Fees can be paid directly by patients or by the practice, clinic or requesting organisation. A payment instruction clearly identifying to whom invoices need to be sent must be given with each patient's request.

Patients are normally invoiced within 7 days to the address provided by the patient or practice. Their pathology fees include a standard credit/administration charge.

Receipts for insurance purposes are sent, if requested. Patients visiting Wimpole Street for sample-taking have the opportunity to settle their pathology fees at the time of their visit. A credit/administration fee is raised for invoices sent to patients. All normal credit, debit or chargecards are accepted and payment can be made by following the telephone payment instructions given with each invoice.

The Terms and Conditions of Business appearing on pages 213-20 of this Laboratory Guide shall apply to the services we provide to you, unless otherwise agreed.

PROTECTION OF PERSONALLY IDENTIFIABLE INFORMATION

The General Data Protection Regulation (GDPR) came in to force in May 2018 and has had a significant impact upon the way that personal data is managed; placing legal requirements upon data processors and controllers to manage that information securely, maintain records of the processing that is carried out, and report when breaches of the regulation do occur. This has impacted the way many businesses operate, and is not restricted to the healthcare sector.

The GDPR requirements have been implemented within the context of a mature ISO 27001 Information Security Management System – the globally accepted standard by which information is secured. This ensures that senior management have regular visibility of the threats to the confidentiality, availability and integrity of the information that we process, and are able to steer the efforts of their teams to provide an efficient service that places the confidentiality of our customers and their patients at the heart of everything we do.

In order to support our customers compliance with the regulation and as a part of a wider GDPR compliance project TDL has updated its standard terms and conditions to include revised data processing clauses, which are mandatory when providing personal data to another organisation.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Helpful information

WHO TO ASK FOR HELP

24 hour Telephone (main switchboard / all services): 020 7307 7373

CEO	David Byrne	david.byrne@tdlpathology.com
Group Commercial Director	Brian Madden	brian.madden@tdlpathology.com
Group Laboratory Director	Tim Herriman	tim.herriman@tdlpathology.com
Director of Sales / Service	Annette Wilkinson	annette.wilkinson@tdlpathology.com
Director of Genetics & Molecular Pathology	Dr Lisa Levett	lisa.levett@tdlpathology.com
Chief Information Officer (IT)	John Matthews	john.matthews@tdlpathology.com

HEADS OF SUPPORT DEPARTMENTS

Group Laboratory Operations Manager	Lisa Manze	lisa.manze@tdlpathology.com
Director of Governance	Emer Nestor	emer.nestor@tdlpathology.com
Patient / Doctor Invoices	Lauren Burgess	lauren.burgess@tdlpathology.com
Logistics / Couriers	Steve Kettle	steve.kettle@tdlpathology.com
Patient Reception / Home Visits	Abdulrhman Joumah	abdulrhman.joumah@tdlpathology.com
Call Centre	Chris Tanalega	chris.tanalega@tdlpathology.com
IT Operations / Customer Service	Rochelle Fakhri	rochelle.fakhri@tdlpathology.com
Sample Reception	Aileen Francis	aileen.francis@tdlpathology.com
Referrals Department	Maulik Trivedi	maulik.trivedi@tdlpathology.com
Human Resources	Matthew Gibbins	matthew.gibbins@tdlpathology.com

HEADS OF LABORATORY DEPARTMENTS (LONDON)

Haem / Bio / Automated Pathology	Naina Chavda	naina.chavda@hslpathology.com
Microbiology	Alan Spratt	alan.spratt@tdlpathology.com
Andrology	Andrew Dawkins	andrew.dawkins@tdlpathology.com
Cervical Screening	Margaret Morgan	margaret.morgan@tdlpathology.com
Immunology/Virology	Kushen Ramessur	kushen.ramessur@tdlpathology.com
Cytogenetics	Rebecca Watts	rebecca.watts@hslpathology.com
Molecular Genetics	Dr Stuart Liddle	stuart.liddle@tdlpathology.com
TDL Trials	Abraham Roodt	abraham.roodt@tdlpathology.com

TDL MANCHESTER

Operational Site Lead	Diane Benson	diane.benson@tdlpathology.com
Systems Manager	Andy Leeson	andy.leeson@tdlpathology.com
SRA Manager	Georgina Arnold	georgina.arnold@tdlpathology.com
Quality Manager	Eamonn Donnellan	eamonn.donnellan@tdlpathology.com
Courier Control	Marc Rennard	marc.rennard@tdlpathology.com

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Quality assurance

The Doctors Laboratory is committed to providing doctors with pathology of the highest quality. The quality of results is of fundamental importance and the laboratory operates to stringent technical and administrative standards.

Internal quality assurance is achieved by strict adherence to standard operating procedures for all analytical processes. TDL participates in recognised National External Quality Assessment Schemes. These schemes are subscribed to by NHS and private laboratories. Results are subjected to strict internal and external quality control. Details of the laboratories to whom TDL refers specialist testing are available from TDL Referrals. These laboratories are UKAS accredited or of equal accreditation status. Details of the tests that are referred are given on the TDL website. QA is administered by TDL's Quality Management Group (QMG) who also adhere to regulatory and accreditation requirements.

BIOCHEMISTRY: UKNEQAS, WEQAS, RIQAS, BIORAD for

ACE
AFP/CEA & HCG
Antibiotics (Gentamicin, Vancomycin and Amikacin)
Anti-Hbs Detection
Ammonia
Autoimmune (RF and TPO)
B2 Microglobulin
Cardiac Markers
Clinical Chemistry
CMV IgG/IgM
CRP & Ultra-Sensitive CRP
CSF
Cyclosporin and Tacrolimus
DEQAS
Diagnostic Serology Exanthem
Diagnostic Serology Hepatitis
Drugs of Abuse
Ethanol
Faecal Markers for Inflammation (Calprotectin)
Free Beta HCG and PAPP-A
GFR
Glucose/Glucometer
Glycated Haemoglobins
Guildford Peptides
Haematinics
Healthcontrol Therapeutic Drugs Screen (TDM)
Hepatitis A (with B and C)
Hepatitis B Serology
Hepatitis C Serology
HIV Serology
Homocysteine
HTLV
IGF-1
Immunity Screen
Lipase
Lipid Investigations
NT-Pro BNP
Paediatric Bilirubins
Parasitology
Peptide Hormones
PSA, Free PSA
PTH, ACTH and hCT
Rubella IgG Serology
Salicylate and Paracetamol
Specific Proteins
Steroid Hormones
Syphilis Serology
Thyroglobulin Surveys
Thyroid Hormones
Total IgE
Toxoplasma IgG/M Serology
Tumour Markers
Toxoplasma IgM Serology

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Quality assurance

Toxoplasma IgG Serology
Trace Elements
Urine Chemistry
Vitamin D (25 OH)

HAEMATOLOGY: UKNEQAS for
Automated Differential Leucocyte Count
Blood Film Morphology
Coagulation (Including PoCT Coagulation)
EBV Mononucleosis
ESR and NRBC (nucleated Rbc)
Flow Cytometry
- Leukaemia immunophenotyping
- Myeloperoxidase
- Iron stain

Full Blood Count
Haematology
Haematology Analysis
Malaria
Parasite Films
Reticulocyte
Sickle Screening
Thrombophilia Screening
Blood Transfusion Laboratory Practice Scheme (BTLP)

Factors assays:
Von Willebrand (vWD) screen
Anti-Xa assays
Plasma viscosities
ADAMTS-13 activity
ADAMTS-13 antibody
Heparin/Platelet Factor 4 Induced Antibodies
Platelet function analysis (RCPA)
Lupus anticoagulant:
- Taipan Venom Time
- DRVVT assay

GENETICS AND MOLECULAR VIROLOGY
MOLECULAR GENETICS
Acquired array (CLL/MDS)
Acute Leukaemia FISH pilot
Acute Lymphoblastic Leukaemia (ALL)
– G banding and FISH
BoBs Rapid Aneuploidy detection
Chlamydia & Gonorrhoea detection by PCR
Constitutional Clinical Cytogenetics
(Rounds for Amniocentesis, CVS, Solid Tissue, Blood, Array CGH)
Cystic Fibrosis
Duchenne/Becker Muscular Dystrophy
Hereditary Haemochromotosis (C282Y+H63D) genotyping + reporting
HLA Class I (HLA-A, HLA-B, HLA-C) Tissue Typing (low resolution)
HLA Class II (HLA-DRB1, HLA-DQB1) Tissue Typing (low resolution)
HLA-B27 Genotyping
HLA-B57*01 Genotyping
HLA+ Disease Typing
Cytochrome P450 2D6/2C19 genotyping
Human Papillomavirus DNA
Mature B & T cell Neoplasms – FISH for CLL and Lymphoma
Mature B & T cell Lymphoma – G-banding
Myeloid (AML/MDS/CML) – G-banding and FISH
Myeloma – sample FISH set up and analysis plus online
NGS AML gene panel
NIPT for aneuploidies
NIPT for sexing
Paternity Testing
Prader-Willi and Angelman Syndromes
QF-PCR Aneuploidy Detection
Sexually Transmitted Diseases (CT/NG/MGEN/TV)
Spinal Muscular Atrophy
Thrombophilia (Factor II, V, MTHFR)
Y Microdeletion PCR Assay

MOLECULAR VIROLOGY
Atypical Mycobacterium
Adenovirus DNA Viral load
Bacterial 16S
B19 virus DNA Viral load
BK virus DNA Viral load
CMV DBS (dried blood spots)
CMV DNA Plasma Viral load
CMV DNA Whole Blood Viral load
CMV Resistance
EBV DNA Plasma Viral load
EBV DNA Whole Blood Viral load
Enterovirus RNA
Gastroenteritis Virus Panel
Hepatitis B Genotyping
Hepatitis B Drug Resistance Typing
Hepatitis B Viral Load

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Quality assurance

Hepatitis C genotyping
Hepatitis C Resistance genome detection (NS5a & b)
Hepatitis C Resistance Typing (NS3 & NS5a)
Hepatitis C Viral Load
Hepatitis D Virus Viral load and Qualitative PCR
Hepatitis E Virus Viral load and Qualitative PCR
HIV-1 Drug Resistance (Pol)
HIV-1 Drug Resistance (Integrase)
HIV-1 RNA Viral load
HIV-1 RNA Qualitative PCR
HIV-1 Tropism Genome Detection
HIV-2 Viral load and Qualitative PCR
HSV 1&2 DNA
HSV Drug Resistance
Human Herpes virus 6 DNA
Influenza Haemagglutinin typing
JC virus DNA
Measles and Mumps PCR
MERS Coronavirus
Parechovirus RNA
Respiratory panel I
Respiratory panel II
SARS-CoV-2 (COVID-19) PCR/NAAT
SARS-CoV-2 (COVID-19) antibodies
Syphilis PCR
Transplantation Virus Panel
VZV DNA

MICROBIOLOGY

Laboratory Quality Scheme:

Helicobacter pylori antigen from faeces
Polarising crystal microscopy from synovial fluid
Streptococcus pyogenes (Group A) detection in pharyngeal samples
Surveillance for multi drug resistant bacteria

UKNEQAS:

Clostridium difficile detection and toxin testing
Faecal parasites
General bacteriology
Genital pathogens
MRSA screening
Microbial susceptibilities
Mycobacterial microscopy
Mycobacterial culture and molecular detection
Antifungal assays
Antifungal susceptibilities
Cryptococcal antigen
Fungal culture
Fungal biomarkers
Urinary antigen

WEQAS POCT:

Urinalysis

QCMD:

Dermatophyte PCR
PCP PCR
Atypical pneumoniae PCR

IMMUNOLOGY

UKNEQAS – General Immunology for:

Allergen Component Testing
Autoimmune Serology ANCA/GBM Antibodies
Bullous Dermatosis Antibodies
Allergen Specific IgE Antibodies
General Autoimmune Serology
Anti-Phospholipid Antibodies (ACAB)
Nuclear and Related Antigens
IGRA TBQ
Intrinsic factor
Islet Cell Antibodies (Diabetic Marker)
Myositis Antibodies
Specific Microbial Antibodies
C1 Esterase inhibitor and functional complement
Syphilis (TPPA and RPR)
Lyme (IgG and IgM)
Hepatitis C
Hepatitis E (IgG and IgM)
Coeliac Disease (Endomysium, Tissue transglutaminase)

EUROQAS:

Liver Blot

UKNEQAS – Infectious Immunology for:

HIV Serology/POCT
Immunity Screen – VZV, Parvo Viruse, EBV
Chlamydia Detect
Varicella Zoster (IgG) Serology
Parasite Serology
Chlamydia & Gonorrhoea (NAAT/PCR)
Hepatitis E

RIQAS Scheme:

Procalcitonin

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Quality assurance

RCPAQAP Scheme:
Brucella Serology
Legionella (IgG) Serology
Scleroderma Antibodies
Striated Muscle Antibodies
Chlamydia Serology

INSTAND Scheme:
Adrenal Antibodies
Hepatitis E Serology
RNAP Antibodies

CSCQ Scheme:
Lyme Serology

Laboratory Quality Scheme:
Herpes Simplex Virus
Cytomegalovirus
Antistreptolysin O Titre
Helicobacter Pylori IgG Antibodies
RNA Polymerase III
Euroimmun ifW-Lubeck Liver Autoimmune Disease Scheme

ENDOCRINOLOGY: **UKNEQAS for**
Steroid Hormones
Peptide Schemes 1 to 4
Thyroid Scheme
Allergens Scheme
SHBG
Prostate Specific Antigen
Tumour Markers
PTH
Specific IgE/Total IgE
AFP/CEA

CERVICAL SCREENING:

PHE:
Gynaecological Cytopathology EQA Scheme (GEQA)
National EQA Scheme for the Preparation and Staining of Cervical Liquid Based Cytology Samples (TEQA)

HOLOGIC:
ThinPrep Stain EQA

UKNEQAS for Microbiology
Molecular Detection of HPV

DIAGNOSTIC CYTOLOGY

UKNEQAS for CPT:
Stained Non-Gynaecological Cytology Module.
All non-gynaecological (diagnostic cytology), including Urine Cytology, are referred to a UKAS accredited laboratory for reporting.

ANDROLOGY: **UKNEQAS for**
Semen Analysis Scheme

Information security:
Accredited by British Standards Institute ISO/IEC 27001:2013

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Quality assurance

LINKS TO THE UKAS SCHEDULES OF ACCREDITATION

(Certain UKAS accreditations can be found under Health Services Laboratories (HSL), which is part of the TDL Group of Laboratories.)

HSL Blood Sciences (8169)
https://www.ukas.com/wp-content/uploads/schedule_uploads/00007/8169%20Medical%20Single.pdf

HSL Infection Sciences (8860)
https://www.ukas.com/wp-content/uploads/schedule_uploads/00007/8860%20Medical%20Single.pdf

HSL Molecular Pathology and Genetics (8059)
https://www.ukas.com/wp-content/uploads/schedule_uploads/00007/8059%20Medical%20Single.pdf

TDL Manchester (8812)
https://www.ukas.com/wp-content/uploads/schedule_uploads/00007/8812%20Medical%20Multiple.pdf

TDL Andrology (10199)
https://www.ukas.com/wp-content/uploads/schedule_uploads/00007/10199%20Medical%20Single.pdf

HSL Cytology (8511)
https://www.ukas.com/wp-content/uploads/schedule_uploads/00007/8511%20Medical%20Single.pdf

TDL Urine Cytology (9706)
https://www.ukas.com/wp-content/uploads/schedule_uploads/00007/9706-Medical-Multiple.pdf

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Quality assurance

MEASUREMENT UNCERTAINTY

Medical laboratories are responsible for ensuring that test results are fit for clinical application by defining analytical performance goals and selecting appropriate measurement procedures. All types of measurement have some inaccuracy due to bias and imprecision; therefore measurement results can only be estimates of the values of the quantities being measured. To properly use such results, medical laboratories and their clinical users need some knowledge of the accuracy of such estimates.

The complete result of a measurement is a value, a unit and an estimate of uncertainty. This estimate of uncertainty is conventionally referred to as Measurement Uncertainty (MU) and incorporates the cumulative range of factors involved in the testing procedure itself in addition to consideration of the inter-individual and intra-individual biological variation which will potentially influence the overall test result. Evaluating measurement uncertainty is an ISO 15189:2012 accreditation requirement.

In terms of MU determined by the TDL/HSL group of laboratories, it should be noted all assays are performed in strict accordance with the manufacturers' instructions. MU, which has been estimated for each assay during the verification procedure, is reviewed at regular intervals to ensure that MU values do not exceed the pre-defined maximum allowable uncertainty for each assay. Overall assay performance is also regularly monitored through internal quality control (IQC) and external quality assessment (EQA) schemes and incorporated in test result interpretation. MU for individual assays is available upon request.

SAMPLE REJECTION CRITERIA

Sometimes tests cannot be performed in the laboratory if samples fall short of the quality, volume or other eligibility criteria. In these cases, the laboratory may need to reject the samples, and not carry out processing. Sometimes the laboratory is able to rectify a situation – and although turnaround times may be affected, it avoids having to arrange for samples to be taken again.

Summary List for Sample Rejection

- Incorrect sample types received:
  - *Basic incorrect blood tube/other sample.*
  - *Samples without the appropriate preservative (e.g. acidified urine samples).*
  - *Samples that are received ambient, when a frozen sample is required.*
  - *Samples that are received unprotected from light, when they are required to be covered at the point of venepuncture.*
- Samples in incorrect containers (e.g. cervical cytology must be a ThinPrep vial; urine cytology must be in a uricyte container).
- Insufficient sample received.
- No sample received.
- Labelling or form issues (mislabelled/unlabelled/no forms/no clinical information).
- Clotted/haemolysed/lipaemic/icteric samples.
- Sample is broken or has leaked in transit.
- Stability time has been exceeded. Stability time is test dependant, and also refers to tests that can only be carried out on certain days of the week.

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Quality assurance

- Sample contamination (e.g. being in the same bag as a leaking sample).
- Samples are high risk or infectious.
- Samples that are received in expired tubes.

Department Specific

- Sample Reception will not accept samples packaged with needles of any kind.
- Haematology cannot accept frozen whole blood for testing.
- Coagulation cannot accept over or under filled samples for testing.
- Coagulation cannot accept previously frozen samples that have thawed in transit.
- Biochemistry cannot accept previously frozen samples that have thawed in transit.
- Biochemistry cannot accept samples that display antibody interference.
- Biochemistry cannot accept samples that have had separation delays/un-centrifuged samples that have been stored in the fridge.
- Biochemistry cannot accept paraprotein resulting in viscous samples.
- Biochemistry cannot accept CSF protein that is blood stained.
- Immunology cannot accept TBQ kits that:
  - *Do not contain all of the appropriate tubes.*
  - *Are incubated for more than the specified 16 hours.*
  - *Have passed the incubation time period.*
  - *Are over or under filled.*
- Microbiology cannot accept samples in non-sterile containers or in formalin.
- Referrals cannot accept samples without three points of identification for DRP testing.
- Referrals cannot accept samples that are not labelled by hand for blood group testing.
- Molecular Pathology cannot accept samples for Haemophilia testing without informed consent.
- Cervical Cytology cannot accept over or under filled samples for testing.
- Cervical Cytology cannot accept samples received within three months of the previous test in order to allow epithelial cells to regenerate.
- Urine cytology cannot accept delayed samples unless they have been refrigerated.

Samples deemed to be PRECIOUS (e.g. CSF, fluid, tissue, bone marrow and paediatric samples) will not be discarded by the laboratory. Results will include a comment relating to the condition of the sample (e.g. sample unlabelled).

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Quality assurance

CONSULTANT ADVICE AND OPINION

Each department in the laboratory is consultant led. The TDL doctors Consultants listed below have defined areas of cover and so for doctors wanting clinical advice or professional support, TDL consultants can be contacted via the laboratory.

TDL LEAD CONSULTANTS

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Dr Colin Graham Fink
MB, ChB, FRCPath

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Special instructions for samples

1 Contact the laboratory for special sample tubes/ containers/instructions.

2 Confirmation of not negative drug screens by LCMS/MS may take up to 5 days.

3 Clinical history essential and protect from light.

4 Send to the laboratory without delay.

5 Do not send sample to the laboratory between Friday noon and Monday morning.

6 Contact the Referrals Department before taking and sending sample to the laboratory.

7 Sample should be separated and frozen if sending overnight.

8 DRP Form required. DRP Form can be found at the back of the guide.

9 Clinical history must be provided.

10 Contact the laboratory for special stability tubes for lymphocyte subsets – or take an EDTA sample and ensure same day delivery to the laboratory, Monday to Friday noon (do not send sample between Friday noon and Monday morning).

11 Patient consent required. Consent Form can be found at the back of this guide.

12 Please provide one sample for each person being tested.

13 Protect from light.

14 Provide details of travel history.

15 Ammonia

Sample: EDTA plasma only. Full tubes and tightly stoppered. On ice, centrifuged and analysed 20-30 mins post venepuncture (or plasma can be frozen). If haemolysed gives falsely high results.

Patient: Fasting. Avoid smoking.

16 Lactate

Sample: Fluoride oxalate plasma only. On ice and separate from cells 15-30 mins, analyse promptly. Handle with care as sweat contains large amounts of lactate. No tourniquet.

Patient: Rest 30 mins prior to test.

17 Homocysteine

Should be spun and separated with 1 hour of venepuncture.

18 Citrate Samples

Samples should be double spun and separated and frozen within 4-8 hours of sample taking, if a delay is expected with transportation to the laboratory, samples must be transported as frozen.

19 Must include patient's age, height and weight.

20 Sample types: FCRU or PCR swab or TPV or Semen.

21 Urine cytology container, ideally first catch, mid-morning specimen.

22 Must be fresh.

30 Collect sample at end of exposure.

33 Sample must be labelled by hand with first name, family name, gender and date of birth detailed on sample and form. Do not use labels other than the tube label.

34 Samples must arrive in the laboratory on the same day of sample taking or contact the laboratory.

35 Patient should be fasting and resting for 30 mins before sample taking. Samples need handling urgently.

36 Renin: Sample collected either upright/active or resting/supine (3 hours lying).

37 Provide sample time and date of collection.

38 EDTA sample should not be separated: send whole blood.

39 Urgent samples have a 3 day TAT if genotype is required for prenatal diagnosis or two weeks TAT if urgent for other factors.

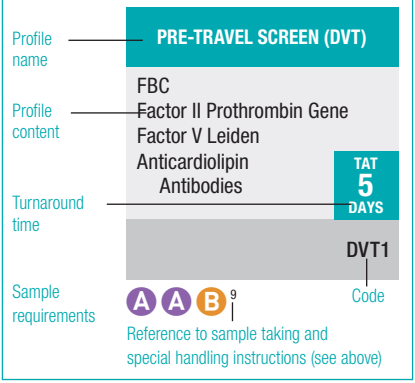
40 Informed Consent is required for these tests.

41 Recommendation for patient to attend Patient Reception for sample taking.

42 LGV can be added to a positive chlamydia sample using the same swab if requested within 4 days of receipt of result.

43 Please contact lisa.levett@tdlpathology.com for details for referring samples to the laboratory for sequencing testing.

Example of profile panel information



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TDL Screening Profiles DL1–DL12

DL1 BIOCHEMISTRY PROFILE

Urea and Electrolytes
Sodium, Potassium, Chloride, Bicarbonate, Urea, Creatinine, eGFR
Liver Function Tests
Bilirubin, Alk Phos, AST, ALT, Gamma GT, Total Protein, Albumin, Globulin
Cardiac/Muscle Enzymes
LDH, CK
Bone Markers
Calcium, Phosphate, Uric Acid

Glucose
Triglycerides
Cholesterol
Iron
Total Iron Binding

TAT 4 HOURS

DL1

DL1L *plus HDL Cholesterol, LDL Cholesterol, Non-HDL Cholesterol*

B G

DL2 BIOCHEMISTRY (24 PARAMETERS) & HAEMATOLOGY PROFILE

HAEMATOLOGY
FBC with 5-part Diff
ESR

BIOCHEMISTRY
Urea and Electrolytes
Sodium, Potassium, Chloride, Bicarbonate, Urea, Creatinine, eGFR
Liver Function Tests
Bilirubin, Alk Phos, AST, ALT, Gamma GT, Total Protein, Albumin, Globulin
Cardiac/Muscle Enzymes
LDH, CK
Bone Markers
Calcium, Phosphate, Uric Acid

Glucose
Triglycerides
Cholesterol
Iron/TIBC

TAT 4 HOURS

DL2

DL2L *plus HDL Cholesterol, LDL Cholesterol, Non-HDL Cholesterol*

A B G

DL3 HAEMATOLOGY PROFILE

FBC with 5-part Diff
ESR

TAT 4 HOURS

DL3

A

DL4 BIOCHEMISTRY (16 PARAMETERS) & HAEMATOLOGY PROFILE

HAEMATOLOGY
FBC with 5-part Diff
ESR

BIOCHEMISTRY
Renal Function
Urea, Creatinine, eGFR
Liver Function Tests
Bilirubin, Alk Phos, AST, ALT, Gamma GT, Total Protein, Albumin, Globulin
Bone Markers
Calcium, Phosphate, Uric Acid

Glucose
Triglycerides
Cholesterol

TAT 4 HOURS

DL4

DL4L *plus HDL Cholesterol, LDL Cholesterol, Non-HDL Cholesterol*

A B G

DL5 BIOCHEMISTRY & HAEMATOLOGY POSTAL PROFILE

As DL4

DL5/DL5L do not include ESR and Phosphate as these results may be more affected by overnight transit times.

TAT 4 HOURS

DL5

DL5L *plus HDL Cholesterol, LDL Cholesterol, Non-HDL Cholesterol*

A B G

DL6 GENERAL WELL PERSON PROFILE

DL2
FT4/TSH
Ferritin

TAT 4 HOURS

DL6

DL6L *plus HDL Cholesterol, LDL Cholesterol, Non-HDL Cholesterol*

A B G

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TDL Screening Profiles DL1-DL12

DL7 WELL MAN PROFILE

DL2
FT4/TSH
Ferritin
Prostate Profile

TAT 4 HOURS

DL7

DL7L *plus HDL Cholesterol LDL Cholesterol Non-HDL Cholesterol*

A B G

DL8 WELL PERSON PROFILE

DL2
FT4/TSH
Ferritin
Vitamin D

TAT 4 HOURS

DL8

DL8L *plus HDL Cholesterol LDL Cholesterol Non-HDL Cholesterol*

A B G

DL9M SENIOR MALE PROFILE 60+

DL2
HDL/LDL Cholesterol
HbA1C
FT4/TSH
Prostate Profile
CRP
Ferritin
QFIT
MSU
Vitamin D (25 OH)
Lp-PLA2 (PLAC) Test

TAT 2 DAYS

DL9M

A B B G RU QFIT[4]

DL9F SENIOR FEMALE PROFILE 60+

DL2
HDL/LDL Cholesterol
HbA1C
FT4/TSH
CRP
Ferritin
QFIT
MSU
Vitamin D (25 OH)
HE4
Lp-PLA2 (PLAC) Test

TAT 2 DAYS

DL9F

A B B G RU QFIT[4]

DL10 CARDIOVASCULAR RISK PROFILE 1

Cholesterol
Triglycerides
HDL Cholesterol
LDL Cholesterol
Non-HDL Cholesterol
Apolipoprotein A
Apolipoprotein B
Lipoprotein (a)
hsCRP
Lp-PLA2 (PLAC) Test

TAT 3 DAYS

DL10

B B

DL11 CARDIOVASCULAR RISK PROFILE 2

Cholesterol
Triglycerides
HDL Cholesterol
LDL Cholesterol
Non-HDL Cholesterol
Apolipoprotein A
Apolipoprotein B
Lipoprotein (a)
Fibrinogen
hsCRP
Lp-PLA2 (PLAC) Test
Homocysteine

TAT 3 DAYS

DL11

B B B C[34]

DL12 7 STI PROFILE BY PCR (7 PCR TESTS FROM 1 SAMPLE)

Chlamydia trachomatis
N. gonorrhoea
Mycoplasma genitalium
Ureaplasma
Trichomonas vaginalis
Gardnerella vaginalis
Herpes Simplex I/II

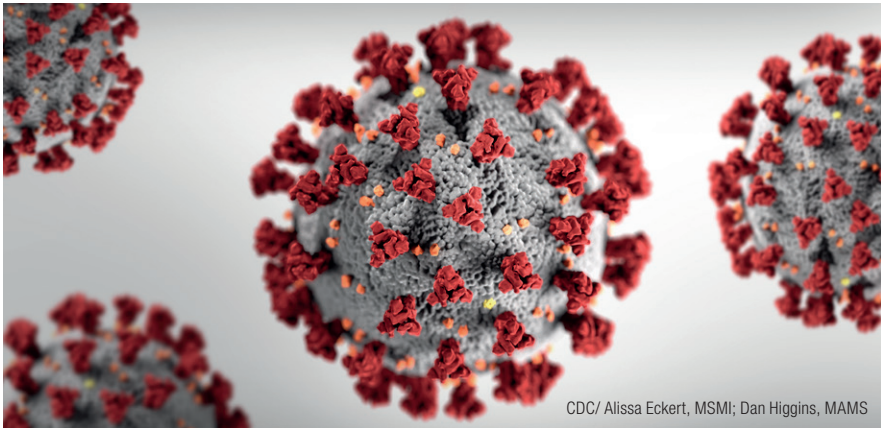
TAT 2 DAYS

DL12

FCRU OR PCR Swab OR TPV

Key: See page 23 for sample-taking and special handling instructions.

Testing for COVID-19 (SARS-CoV-2)



CDC/ Alissa Eckert, MSMI; Dan Higgins, MAMS

There are six human coronaviruses that can infect people:

Common Cold – coronaviruses 229E, NL63, OC43, and HKU1 (these four are included in TDL's **COVID-19 / FLU / RSV Screen**, details on page 100).

The other two human coronaviruses are MERS-CoV and **SARS-CoV-2** – the coronavirus that causes coronavirus disease 2019, or COVID-19.

TDL will continue to update on COVID-19 testing developments as they become available but is currently offering:

- **COVID-19 by PCR**: For General Testing, Travel Testing with the most recent DHSC and UKHSA requirements, and Viral Genetic Sequencing of positive Day2 samples.
- **COVID-19 Antibodies**: Total Spike (Vaccine) Antibody Status, Total Antibody status, and IgG and IgM serology.

COVID-19 (SARS-CoV-2) RNA by PCR

Results are reported as Positive, Not Detected, Indeterminate, or Invalid.

Test Code: NCOV

Sample Type	**PCR swab in CE Marked COVID-19 sample pack**
Turnaround time	**Within 24 hours of receipt of sample**

COVID-19 (SARS-CoV-2) T-SPOT®.COVID NEW

The **T-SPOT®.COVID** test is intended for qualitative detection of a cell mediated (T cell) immune response to SARS CoV-2 in human whole blood. The **T-SPOT®.COVID** test is intended for use as an aid in identifying individuals with an adaptive, or acquired, immune response to SARS-CoV-2, specifically the T cell response.

	TEST	CODE	SAMPLE REQS	TAT
NEW	**T-SPOT®.COVID**	TCEL	H ***	3 days

*** Do not refrigerate samples at any time. Samples must be received by TDL within 24 hours of taking the sample. Please do not send samples to the laboratory on Saturdays. T-SPOT®.COVID test is CE marked.

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Testing for COVID-19 (SARS-CoV-2)

	Roche Elecsys Anti-SARS-CoV-2 S (Spike – detects vaccine) Total antibody	Roche Elecsys Anti-SARS-CoV-2 Total antibody (does not detect antibodies from vaccine)	Abbott Architect SARS-CoV-2 IgG (does not detect antibodies from vaccine)	Abbott Architect SARS-CoV-2 IgM (does not detect antibodies from vaccine)
Platform	Roche e801	Roche e801	Abbott Architect	Abbott Architect
Assay type	Electro-chemiluminescence immunoassay (ECLIA)	Electro-chemiluminescence immunoassay (ECLIA)	Chemiluminescent Microparticle Immunoassay (CMIA)	Chemiluminescent Microparticle Immunoassay (CMIA)
Reporting format	QUANTITATIVE	Qualitative	Qualitative	Qualitative
Reporting ranges	Positive with value reported in U/ml / Negative	Positive / Negative	Positive / Negative	Positive / Negative
Antigen used	Receptor binding domain (RBD) of Spike antigen	Nucleocapsid	Nucleocapsid	Spike protein
Analyte target	SARS-CoV-2 Antibodies (IgG/IgM) Total antibodies	SARS-CoV-2 Antibodies (IgG/IgM) Total antibodies	SARS-CoV-2 Antibodies (IgG)	SARS-CoV-2 Antibodies (IgM)
Sample type verified	Serum – venous or capillary self-collection	Serum – venous or capillary self-collection	Serum – venous	Serum – venous
Sensitivity	98.8%	97.4%	97.5%	96.67% in samples taken more than 14 days post symptoms onset
Specificity	99.98% in samples taken 14 days or later after positive PCR	100%	99.1%	99.0%
Seasonal Corona Virus panel	24/24 Negative	26/26 Negative	26/26 Negative	N/A

TDL reports all Antibody and PCR activity daily to the UK Health Security Agency (UKHSA). It is a statutory requirement that laboratories notify this information and it is therefore essential that the patient's address and postcode are provided so that positive results can be followed by Test and Trace.

Key: See page 23 for sample-taking and special handling instructions.

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Biochemistry

TEST	CODE	SAMPLE REQS	TAT
5 HIAA	RU5H	**PU** [1]	5 days
5' Nucleotidase	5NT	B	5 days
6-Thioguanine Nucleotides	TGN	A A	2 weeks
21 Hydroxylase Ab's	21HA	B (Frozen)	10 days
Acetylcholine Receptor Autoantibodies	ACRA	B [4]	5 days
Acetylcholinesterase Isoenzymes	ACEI	**AF**	7 days
Acid Phosphatase – Total	APT	B	5 days
Adenosine Deaminase	AD	A / B / **Fluid**	3 weeks
Adiponectin	ADIP	B	2 weeks
Albumin	ALB	B	4 hours
Alcohol (Medical) [Do not use alcohol swab prior to sample taking]	ALCO	G [1]	4 hours
Alcohol (Urine)	UALC	**RU**	4 hours
Aldolase	ALDO	B	5 days
Alk Phosphatase Isoenzymes	APIE	B	5 days
Alkaline Phosphatase	ALP	B	4 hours
Alpha 1 Antitrypsin (Serum)	A1AT	B	1 day
Alpha 1 Antitrypsin (Stool)	A1AF	**RF**	10 days
Alpha 1 Antitrypsin Genotype – PI*M, PI*S, PI*Z	GENE	Requires patient informed consent A [9]	4 weeks
Alpha 1 Glycoprotein	OROS	B (Frozen)	5 days
Alpha 1 Microglobulin	A1MG	**RU** [1,22]	10 days
Alpha 2 Macroglobulins	A2MG	B	5 days
Alpha Feto Protein (Maternal)	AFPM	B	4 hours
ALT (Alanine Aminotransferase) (SGPT)	ALT	B	4 hours
Aluminium (Blood)	ALUM	K	7 days
Amino Acid (Serum/Plasma)	AMIN	B	7 days
Amino Acid Quantitative (Urine)	UAAQ	**RU**	7 days
Amino-Laevulinic Acid (Urine)	RUAL	100mls **PU**	5 days
Ammonia	AMMO	A (Frozen) [15]	4 hours
Amylase	AMY	B	4 hours
Amylase (Urine)	UAMY	**CU**	4 hours
Amylase Isoenzymes	AMYI	B	5 days
Amyloidosis (Amyloid A Protein)	SAA	B	5 days
Androstanediolglucoronide	ANDG	B	3 weeks
Angiotensin II	ANG2	A (Frozen)	2 weeks
Angiotensin Converting Enzyme	ACE	B	4 hours
Angiotensin Converting Enzyme – CSF	ACEF	**CSF** (Frozen)	2 weeks
Antimony (Urine)	ANTI	**RU** [30]	10 days
Antimullerian Hormone (AMH Plus)	AMH	B	4 hours
AP50 Alternative Hemolytic Complement	AP50	B (Frozen)	2 weeks
Apolipoprotein A1	APOA	B	3 days
Apolipoprotein B	APOB	B	3 days
Apolipoprotein C	APOC	B	3 months

Biochemistry

TEST	CODE	SAMPLE REQS	TAT
Apolipoprotein E (12 hours fasting)	APOE	B (fasting)	5 days
Arsenic (Blood)	ARS	A or H	5 days
Arsenic (Urine)	ARSE	**RU** [30]	5 days
Arylsulphatase A	ARYL	H [5,6]	8 weeks
Aspartate Transaminase (AST) (SGOT)	AST	B	4 hours
Bence-Jones Protein	RBJP	1 x 30mls (**RU**)	5 days
Beta 2 Microglobulin (Serum)	B2MG	B	2 days
Beta 2 Microglobulin (Urine)	UB2M	**RU**	3 days
Beta-Glucuronidase (Sly Disease)	BGLU	H H [9,4]	8 weeks
Bicarbonate	HCO3	B	4 hours
Bile Acids – Serum	BILE	B	4 hours
Bilirubin (Direct/Indirect)	DBIL	B	4 hours
Bilirubin (Total)	BILI	B	4 hours
Bilirubin (Urine)	UBIL	**RU**	1 day
Biotinidase	BIOT	H (Frozen plasma) [4]	3 weeks
Bismuth	BISM	B	5 days
BNP (NT-pro BNP)	BNP	B	4 hours
Bone Alkaline Phosphatase	BALP	B (Frozen)	2 weeks
Bone Screen	BONE	B **CU**	4 hours
Bone Screen (Bloods only)	BON2	B	4 hours
BUN (Blood Urea Nitrogen)	BUN	B	4 hours
C Reactive Protein	CRP	B	4 hours
C Reactive Protein (High Sensitivity)	HCRP	B	4 hours
C1 Esterase: Function & Total	FC1E	C C (Plasma Frozen) [4,18]	10 days
C1q Binding Immune Complex	IMCP	B	5 days
Cadmium (Blood)	CADM	A or H	5 days
Cadmium (Urine)	URCD	**RU** [30]	5 days
Calcium	CA	B	4 hours
Calcium (24 hour Urine)	UCA	**PU**	4 hours
Calcium/Creatinine Ratio	CACR	**RU** B	4 hours
Carbohydrate Deficient Glycoprotein	CDG	B	2 weeks
Carbohydrate Deficient Transferrin (CDT)	CDT	B [4]	3 days
Cardiac Enzymes (not chest pain)	CENZ	B	4 hours
Cardiovascular Risk Profile 1	PP10	B B	3 days
Cardiovascular Risk Profile 2	PP11	B B B C [34]	3 days
Carnitine – Free & Total	CARN	H H (Frozen Plasma)	10 days
Ceruloplasmin	CERU	B	1 day
Chest Pain Profile	CPP	B	STAT
Chloride	CL	B	4 hours
Cholesterol	CHO	B	4 hours
Cholesterol (Familial Hypercholesterolaemia)	GENE	Requires patient informed consent A A [9]	7 weeks
Cholinesterase (Serum/Pseudo)	CHPS	B	4 hours

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Biochemistry

TEST	CODE	SAMPLE REQS	TAT
Chromium (Blood)	CHRO	A	5 days
Chromium (Urine)	URCR	**RU** [30]	10 days
Chromogranin A	CGA	B	5 days
Chromogranin A & B	MTAB	**J** [1]	3 weeks
Citrate (Blood)	CITR	B	5 days
Citrate (Urine)	UCIT	**CU** (Frozen)	5 days
CK (MB Fraction)	CKMB	B	4 hours
CK Isoenzymes	CKIE	B	5 days
Cobalt (Blood)	COB	A	5 days
Cobalt (Serum)	COBB	B	5 days
Cobalt (Urine)	COBA	**RU** [30]	5 days
Coenzyme Q10	CQ10	B	2 weeks
Cold Agglutinin	CAGG	**J** [1]	5 days
Collagen (Type I, II, IV) Antibodies	COAB	B	10 days
Collagen Type 1 Cross-Linked N-Telopeptide – NTX	NTX	**2nd EMU**	2 weeks
Complement C1q	C1Q	B	5 days
Complement C2	C2	B	10 days
Complement C5	C5A	B	2 weeks
Complement C6	C6	B (Frozen)*	5 weeks
Complement C7	C7	B (Frozen)*	5 weeks
Complement C8	C8	B (Frozen)*	5 weeks
Complement C9	C9	B (Frozen)*	5 weeks
Complement Factor H	FACH	B	3 weeks
Copper (Serum)	COPP	B	5 days
Copper (Urine)	URCU	**CU**	5 days
Cortisol Binding Globulin	CBG	B (Frozen)	1 month
Cotinine (Urine)	COTT	**RU**	2 days
Creatine Kinase (CK, CPK)	CKNA	B	4 hours
Creatinine	CREA	B	4 hours
Creatinine (Urine)	UCR	**CU**	4 hours
Creatinine Clearance	CRCL	B **CU**	4 hours
Crosslaps (Serum DPD)	SDPD	B (Freeze within 24 hours)	4 days
Cryoglobulins	CRYO	**J** [6]	10 days
Cyclic Amp (Urine)	CAMP	**CU** (Frozen)	5 days
Cyclosporin (Monoclonal)	CYCL	A	1 day
Cystatin C	CYCC	B	5 days
Cystine – Quantitative (Beta-CTX)	QCYS	**PU**	5 days
Deoxypyridinoline (DPD) – Serum	SDPD	B (Freeze within 24 hours)	4 days
Deoxypyridinoline (DPD) – Urine	DPD	**EMU**	4 days
Diabetic Profile 1	DIAB	A G	8 hours

* Separate and freeze within 2 hours after collection.

Biochemistry

TEST	CODE	SAMPLE REQS	TAT
Diabetic Profile 2	DIA2	A G **RU**	2 days
Diamine Oxidase Activity	DIAM	B	2 weeks
Elastase (Faecal)	ELAS	**RF**	5 days
Electrolytes	ELEC	B	4 hours
Electrolytes (Urine)	UELE	**CU**	4 hours
ELF/Enhanced Liver Fibrosis	ELF	B	5-7 days
Eosinophil Cationic Protein	ECP	B	7 days
Faecal Elastase	ELAS	**RF**	5 days
Faecal Fat (1 Day Collection)	TFFA	**LF** [6]	5 days
Faecal Fat (3 day)	FFAT	**LF** [6]	5 days
Faecal Lactoferrin	FLAC	**RF**	5 days
Faecal Sugar Chromatography	FCRO	**RF** (Frozen)	3 weeks
Faecal Urobilinogen	FURO	**RF**	5 days
Fat Globules in Faeces	FGLO	**RF**	1 week
Ferritin	FERR	B	4 hours
Fibrotest (Liver Fibrosis)	FIBT	B	2 weeks
Fluoride (Urine)	UFL	**RU**	5 days
Folate (Red Cell)	RBCF	A	2 days
Folate (Serum)	FOLA	B	1 day
Free Fatty Acids	FFA	B (Frozen) [1]	10 days
Fructosamine	FRUC	B	1 day
Galactose-1-Phosphate Uridyltransferase	GAL1	H [5,6]	2 weeks
Galactosidase – Alpha*	GALA	**J***	6 weeks
Gall Stone Analysis	RSTA	**STONE**	10 days
Gamma GT	GGT	B	4 hours
Gastrin	GAST	B (Frozen)	5 days
Globulin	GLOB	B	4 hours
Glucagon	GLUG	**J** [1]	10 days
Glucose	RBG	G	4 hours
Glucose Tolerance Test			see page 133
Haemochromatosis – HFE common mutations C282Y + H63D	HMD	A [9]	3 days
Haemosiderin (Urine)	HSID	**EMU**	2 weeks
Haptoglobin	HAPT	B	5 days
HbA1c	GHB	A	6 hours
HDL Cholesterol	HDL	B	4 hours
Homocysteine (Quantitative)	HOMO	B [17]	1 day
Homocysteine (Urine)	HCYS	**CU**	2 weeks
Homovanillic Acid (HVA)	HVA	**PU**	5 days
Hyaluronic Acid	AHT	B	1 week
Hydroxybutyrate Dehydrogenase	HBD	B (Frozen)	1 week
Hydroxyprolene	UHYD	**CU**	2 weeks

* Sample must reach TDL Referrals Dept. urgently, to be tested within 24 hours of collection. Monday–Thursday only. Referrals to send immediately

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Biochemistry

TEST	CODE	SAMPLE REQS	TAT
IgG Subclasses	IGSC	B	4 days
Immunoglobulin A	IGA	B	4 hours
Immunoglobulin D	IGD	B	5 days
Immunoglobulin E – Total	IGE	B	1 day
Immunoglobulin G	IGG	B	4 hours
Immunoglobulin M	IGM	B	4 hours
Immunoglobulins (IgG, IgM, IgA)	IMM	B	4 hours
Insulin-Like Growth Factor 2	IGF2	B [6]	1 month
Iodide – Urine	UIOD	**RU**	1 week
Iodine – Serum	IODI	B	1 week
Ionised Calcium	ICPA	B	5 days
Iron (TIBC included)	FE	B	4 hours
Iron Overload Profile	IOP	A B [9]	3 days
Iron Status Profile	ISP	B	4 hours
Lactate (Plasma)	LACT	G [16]	1 day
Lactate Dehydrogenase (LDH)	LDH	B	4 hours
Lactate Pyurvate Ratio	LPR	**J** [1]	4-6 weeks
Lactose Tolerance Test			see page 133
LDH Isoenzymes	ISOL	B	5 days
LDL7 Subfractions	LDL7	B	10 days
Lead (Blood)	LEAD	A	5 days
Lead (Urine)	URPB	**RU**	5 days
Leptin	LEPT	B [19]	5 days
Leucine Amino Peptidase	LAP	B	5 days
Lipase	LIPA	B	4 hours
Lipid Profile	LIPP	B	4 hours
Lipoprotein (a)	LPOA	B	4 hours
Lipoprotein Electrophoresis	LEL	B	5 days
Lithium (take 12 hours after dose)	LITH	B	4 hours
Liver Fibrosis (Enhanced Liver Fibrosis ELF)	ELF	B	5-7 days
Liver Fibrosis Fibrotest	FIBT	B	2 weeks
Liver Function Tests	LFT	B	4 hours
Lp-PLA2 (PLAC) Test	PLA2	B	2 days
Lysosomal Enzyme Screen	LE	H H [6]	2 months
Lysozyme	LYSO	B	5 days
Magnesium (Serum)	MG	B	4 hours
Magnesium (Urine)	URMG	**PU**	1 day
Manganese (Serum)	MANG	B	5 days
Mannose Binding Lectin	MBL	B	3 weeks
Mercury (Blood)	MERC	A or H	5 days
Mercury (Urine)	URHG	**RU** [1]	5 days
Methaemoglobin	METH	A	3 days
Methaqualone	METQ	**RU**	5 days
Methylmalonic Acid – Serum	MMAS	B	5 days

Biochemistry

TEST	CODE	SAMPLE REQS	TAT
Methylmalonic Acid – Urine	MMA	**CU**	2 weeks
Microalbumin (Urine)	UMA	**RU**	4 hours
Mucopolysaccharides	MPS	**RU** (Frozen)	3 weeks
Myeloma Screen	MYEL	A B G **RU**	5 days
Myoglobin (Serum)	SMYO	B	4 hours
Myoglobin (Urine)	UMYO	**RU**	5-10 days
Newborn Screening Panel	GUTH	**J** [1]	2 weeks
Nickel (Serum)	NICK	B	5 days
Nickel (Urine)	NICU	**RU**	10 days
NMP22 (Bladder tumour)	NMP	**J** [1]	4 days
Oligosaccharides	UOLI	**RU**	6 weeks
Orosomucoid (A1AG – Alpha 1 Glycoprotein)	OROS	B (Frozen)	5 days
Osmolality (Serum)	OSMO	B	1 day
Osmolality (Urine)	ROSM	**RU**	1 day
Osteoporosis Screen	OPS	B B	4 days
Oxalate (Plasma)	POXA	A (Frozen)	7 days
Oxalate (Urine)	UOXA	**PU**	5 days
Pancreatic Peptide	PP	**J**	4 weeks
Parathyroid Related Peptide	PTRP	2ml A Plasma frozen (Freeze immediately) [1]	2 weeks
PEth (Phosphatidylethanol)	PETH	A [38]	5-7 days
Phencyclidine (PCP)	DUST	**RU**	5 days
Phosphate	PHOS	B	4 hours
Phosphate (24 hour Urine)	UPH	**PU**	4 hours
PLAC Test (Lp-PLA2)	PLA2	B	2 days
Plasminogen	PLAS	C (Frozen plasma) [4]	5 days
Plasminogen Activator Inhibitor – 1	PAI1	C (Frozen plasma)	2 weeks
Porphyrin (Blood)	PORP	A [3]	15 days
Porphyrins (Faeces)	FPOR	**RF** [3]	3 weeks
Porphyrins Full Screen (Total: Urine, Stool, Blood)	PORS	A **RU**, **RF** [3]	3 weeks
Porphyrins Screen (Urine)	RPOR	**RU** [3]	3 weeks
Potassium	K	B	4 hours
Pregnancy (Serum) [Quantitative]	QHCG	B	4 hours
Pregnancy Test (Urine)	PREG	**RU**	4 hours
Procalcitonin	PCAL	B (Frozen) [4,7]	1 day
Procollagen 1 Peptide N-Terminal (NTX)	P1NP	B	5 days
Procollagen III Peptide	PRCO	B	5 days
Propoxyphene	DPRO	**RU**	5 days
Prostatic Acid Phosphatase	PACP	B (Frozen)	3 days
Protein (Urine)	UPRT	**CU**	4 hours
Protein 14.3.3 (Creutzfeldt–Jakob Disease)	CJD	**CSF** (Frozen)	5 weeks
Protein Electrophoresis incl. immunoglobin	PRTE	B	2-4 days
Protein Total (Blood)	PROT	B	4 hours

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Biochemistry

TEST	CODE	SAMPLE REQS	TAT
Protein/Creatinine Ratio (Urine)	UCPR	**RU**	4 hours
Renal Calculi Screen (Metabolic)	RSPR	**J** [6]	5 days
Renal Stone Analysis	RSTA	**STONE**	10 days
Retinol Binding Protein	RBP	B	3 days
Salicylates	SALI	B	4 hours
Selenium (Serum)	SELE	B	4 days
Selenium (Whole Blood)	SELR	A or H	4 days
Serum Free Light Chains	SLC	B	1 week
Silver (Blood)	SILV	B	5 days
Silver (Urine)	USIL	**RU**	5 days
Sodium	NA	B	4 hours
Superoxide Dismutase Inhibitor	SODI	A / H	5 days
Thiopurine Methyl Transferase	TPMT	A [5]	5 days
Tissue Polypeptide Antigen	TPA	B	1 week
Total Acid Phosphatase	APT	B	5 days
Total Bile Acid/Bile Salts	BILS	B	1 week
Total IgE	IGE	B	1 day
Transferrin	TRAN	B	1 day
Transferrin Electrophoresis	TREL	B	2 weeks
Triglycerides	TRI	B	4 hours
Trimethylaminuria (Fish Odour Syndrome)	FOS	**PU**	6 weeks
Troponin T (High sensitive)	TROT	B	4 hours
Tryptase	STRY	B	2 days
Tumour Necrosis Factor – Alpha	TNF	B (Frozen) [4]	2 weeks
Urate (Uric acid)	UA	B	4 hours
Urea	UREA	B	4 hours
Urea (Urine)	UURE	**CU**	4 hours
Urea and Electrolytes	U/E	B	4 hours
Urea Electrolytes (Urine)	UELE	**CU**	4 hours
Uric Acid (Serum)	UA	B	4 hours
Uric Acid (Urine)	UURI	**CU**	4 hours
Urine Free Light Chains	UFLC	**RU**	1 week
Urine Organic Acids	UORG	**RU** (Frozen)	3 weeks
Urine Steroid Screen (Steroid Hormones)	USTE	**CU** or **RU** [9]	2 weeks
Urine Sugar Chromatography	UCRO	**RU** (Frozen)	3 weeks
Urobilinogen (Urine)	UURO	**RU**	1 day
Very Long Chain Fatty Acids	VLCF	A or H (Frozen) [9]	4-6 weeks
Vitamin B12 (Active)	B12	B	1 day
Vitamin B12 (Active)/Red Cell Folate	B12F	A B	2 days
Vitamin B12 (Total)	TB12	B	1 day
Vitamin D (25-OH)	VITD	B	4 hours
VLDL Cholesterol	VLDL	B [13]	1 week
VMA	UVMA	**PU** [1]	5 days

Key: See page 23 for sample-taking and special handling instructions.

Biochemistry

LIPID PROFILE

Triglycerides
Cholesterol
HDL Cholesterol
LDL Cholesterol
Non-HDL Cholesterol

TAT 4 HOURS

LIPP

B

UREA AND ELECTROLYTES

Sodium
Potassium
Chloride
Bicarbonate
Urea
Creatinine

TAT 4 HOURS

U/E

B

LIVER FUNCTION TESTS

Bilirubin
ALT
AST
Total Protein
Alkaline Phos
Albumin
Globulin
Gamma-GT

TAT 4 HOURS

LFT

B

IRON STATUS PROFILE

Iron
Total Iron Binding Capacity
Ferritin
Transferrin Saturation

TAT 4 HOURS

ISP

B

IRON OVERLOAD PROFILE

Iron
Total Iron Binding Capacity
Ferritin
Transferrin Saturation
Haemochromatosis C282Y, H63D

TAT 3 DAYS

IOP

A B [9]

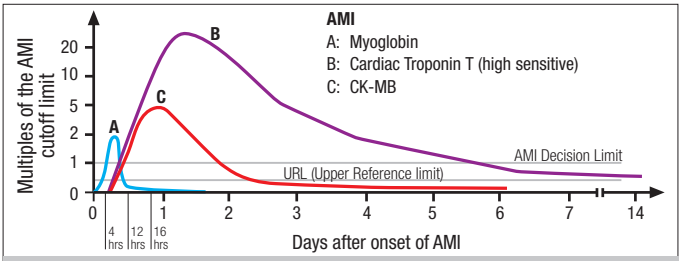
MYELOMA SCREEN

FBC and ESR
Biochemistry Profile
Protein Electrophoresis
Immunoglobulins (IgA, IgG, IgM)
Bence-Jones Protein

TAT 5 DAYS

MYEL

A B G RU



Kinetic Characteristics for Chest Pain Markers

	Beginning	Peak	Duration
Myoglobin	0.5–2 hours	5–12 hours	12–24 hours
Troponin T (hs)	3–4 hours	12–24 hours	14 days
CKMB	3–8 hours	10–18 hours	24–36 hours

Troponin T (high sensitive)

This assay can be used to aid in the differential diagnosis of acute coronary syndrome to identify necrosis, e.g. acute myocardial infarction. As a result of its high tissue-specificity, cardiac troponin T is a cardio-specific, highly sensitive marker for myocardial damage. Cardiac Troponin T (hs) increases approximately 3-4 hours after myocardial infarction and may persist for up to 2 weeks.

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Biochemistry

BONE SCREEN

24 hour Urinary Calcium
24 hour Urinary Phosphate
Urea and Electrolytes
Alkaline Phosphatase
Total Protein
Albumin
Globulin
Calcium

TAT 4 HOURS

BONE

B CU

BONE SCREEN (BLOODS ONLY)

Urea and Electrolytes
LFT's
Calcium
Phosphate
Vitamin D (25 OH)

TAT 4 HOURS

BON2

B

OSTEOPOROSIS SCREEN

Alkaline Phosphatase
Calcium
Albumin
Phosphate
Serum Crosslaps (DPD)
Vitamin D (25 OH)

TAT 4 DAYS

OPS

B B

CARDIOVASCULAR RISK PROFILE 1

Cholesterol
Triglycerides
HDL Cholesterol
LDL Cholesterol
Non-HDL Cholesterol
Apolipoprotein A
Apolipoprotein B
Lipoprotein (a)
hsCRP
Lp-PLA2 (PLAC) Test

TAT 3 DAYS

PP10

B B

CARDIOVASCULAR RISK PROFILE 2

Cholesterol
Triglycerides
HDL Cholesterol
LDL Cholesterol
Non-HDL Cholesterol
Apolipoprotein A
Apolipoprotein B
Lipoprotein (a)
Fibrinogen
hsCRP
Lp-PLA2 (PLAC) Test
Homocysteine

TAT 3 DAYS

PP11

B B B C [34]

CHEST PAIN PROFILE

Myoglobin
CK MB Fraction
Troponin T

STAT

CPP

B

DIABETIC PROFILE 1

Glucose
HbA1c

TAT 8 HOURS

DIAB

A G

DIABETIC PROFILE 2

Glucose
HbA1c
Microalbumin

TAT 2 DAYS

DIA2

A G RU

Key: See page 23 for sample-taking and special handling instructions.

Haematology

All citrate samples (C) sent by post or with an overnight delay must be double spun and sent frozen.

TEST	CODE	SAMPLE REQS	TAT
Anaemia Profile	ANAE	A A B	2 days
Antenatal Profile	ANTE	A A [33] B B B G	3 days
APTT/KCCT	KCCT	C [18]	4 hours
Atypical Antibody Screen (handwritten tube label)	AASC	A [22,33]	2 days
Blood Film Examination	FILM	A	1 day
Blood Group †	ABO	A [22,33]	2 days
Carboxyhaemoglobin	CBHB	A	1 week
Coagulation Profile 1	CLPF	C [18]	4 hours
Coagulation Profile 2	CLOT	A C [18]	4 hours
D-Dimers (Fibrinogen Degradation Products)	DDIT	C [4]	4 hours
DVT/Pre-travel Screen	DVT1	A A B [9]	5 days
ESR	ESR	A	4 hours
Fibrinogen	FIB	C [4,18]	4 hours
Full Blood Count	FBC	A	4 hours
Haematology Profile	PP3	A	4 hours
Haemoglobin	HB	A	4 hours
Immune Function Evaluation (Total)	TIE	A + B [5,10]	7 days
INR	PTIM	C [18]	4 hours
Lymphocyte Subsets (CD3/CD4/CD8)	LYSS	A [10]	1 day
Malarial Parasites	MALP	A [4,9,14]	STAT
Mean Cell Volume (MCV)	MCV	A	4 hours
Microfilaria Blood Film	MICF	A	STAT
Natural Killer Profile 2	NKP2	A	2 days
PAI1 4G/5G Polymorphism	PAIP	A	10 days
Paul Bunnell (Monospot)	PAUL	A or B	8 hours
Pre-Travel Screen (DVT)	DVT1	A A B [9]	5 days
Prothrombin Time	PTIM	C [18]	4 hours
Prothrombin Time + Dose	PT+D	C [18]	4 hours
Reticulocyte Count	RETC	A	4 hours
Thrombin Time	THRO	C [18]	4 hours
Vitamin K (With PIVKA II)	VITK	B [13]	10 days

† The tube's own label must be completed by hand. This must correspond with same name and date of birth details as given on the request form. Do not affix additional computerised or hand written labels.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Haematology

SPECIAL HAEMOSTASIS

TEST	CODE	SAMPLE REQS	TAT
Activated Protein C Resistance	APCR	C (Frozen)[4,18]	3 days
ADAMTS-13 Activity	CP13	C (Frozen)	3 days
ADAMTS-13 Antibody	A13A	C (Frozen)	1 month
Anti-Xa Apixaban monitoring	APIX	C (Frozen)*	3 days
Anti-Xa Fondapariux Monitoring	FOND	C (Frozen)*	3 days
Anti-Xa LMWH monitoring	LMWX	C (Frozen)*	3 days
Anti-Xa Rivaroxaban monitoring	RIVA	C (Frozen)*	3 days
Antithrombin III	A111	C (Frozen)[4,9,18]	3 days
Factor II Assay	FAC2	C (Frozen)[9,18]	5 days
Factor V Assay	FAC5	C (Frozen)[9,18]	5 days
Factor VII Assay	FAC7	C (Frozen)[9,18]	5 days
Factor VIII Assay	FAC8	C (Frozen)[9,18]	5 days
Factor VIII Inhibiting Antibody	F8IA	C C [18]	2 weeks
Factor IX Assay	F1X	C (Frozen)[9,18]	5 days
Factor IX Inhibiting Antibody	F9IA	C C [18]	2 weeks
Factor X Assay	FX	C (Frozen) [9,18]	5 days
Factor XI Assay	FX1	C (Frozen) [9,18]	5 days
Factor XII Assay	FX11	C (Frozen) [9,18]	5 days
Factor XIII Assay	FA13	C (Frozen) [9,18]	5 days
Hughes Syndrome	LUPA	B C [4,18]	2 days
Lupus Anticoagulant and Anticardiolipin Abs	LUPA	B C [4,18]	2 days
Lupus Anticoagulant only	LUPC	C [18]	2 days
Miscarriage/Thrombotic Risk Profile	PROP	A A B C C C [18]	5 days
P2Y12 Receptor Platelet Function Analysis (Clopidogrel Resistance)	P2Y	C (Whole blood)**	1 day
Platelet Aggregation Studies	PLAG	J [5,6]	3 days
Protein C	PRC	C (Frozen) [4,9,18]	3 days
Protein S Activity	PS1	C (Frozen)[4,9,18]	5 days
Protein S Free Ag	FPRS	C (Frozen) [4,9,18]	3 days
Taipan Snake Venom Time	TTVT	C [18]	1 week
Thrombotic Risk Profile	PROP	A A B C C C [18]	5 days
Viscosity (Plasma)	VISC	A [4]	3 days
Von Willebrand Profile	FVWF	C C C [4,12]	5 days
Von Willebrands Multimers	VWM	C C C [18]	3 months

* Please state drug and time of dose on request.

** Deliver directly to 60 Whitfield Street, Haemostasis Laboratory

Haematology

SPECIAL HAEMATOLOGY

TEST	CODE	SAMPLE REQS	TAT
Coombs (Direct Antiglobulin Test)	COOM	A	2 days
Erythropoietin	ERY	B	4 days
G6PD	G6PD	A	3 days
Haemoglobin Electrophoresis	HBEL	A	4 days
HFE gene (Haemochromatosis) – common mutations C282Y + H63D	HMD	A [9]	3 days
Sickle Solubility	SSOL	A	4 days
Thalassaemia Screen	HBEL	A	4 days

FLOW CYTOMETRY

TEST	CODE	SAMPLE REQS	TAT
Bone Marrow (Aspirate)	BMAS	J [1]	14 days
Bone Marrow (Trephine Biopsy)	BMI	J [1]	3 days
CD3/CD4/CD8	LYSS	A [10]	1 day
CD16	CD16	A [4]	1 day
CD19 B Cells	CD19	A [4]	1 day
CD20	CD20	A [10]	2 days
CD25	CD25	A [10]	2 days
CD56	CD56	A [4]	1 day
CD57	CD57	A	1 day
Hams Test for PNH (CD59)	HAMS	J [34,5]	5 days
Leukaemia Immunophenotyping	LYPT	A [4,5]	5 days

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Haematology

HAEMATOLOGY PROFILE

FBC + 5 part Diff
ESR

TAT 4 HOURS

PP3

A

COAGULATION PROFILE 1

Prothrombin Time
APTT
Fibrinogen

TAT 4 HOURS

CLPF

C [18]

COAGULATION PROFILE 2

FBC + 5 part Diff
Prothrombin Time
APTT
Fibrinogen

TAT 4 HOURS

CLOT

A C [18]

ANAEMIA PROFILE

FBC + 5 part Diff
ESR
Iron, TIBC
Ferritin
B12 (Active)
Folate (RBC)

TAT 2 DAYS

ANAE

A A B

PRE-TRAVEL SCREEN (DVT)

FBC
Factor II Prothrombin Gene
Factor V Leiden
Anticardiolipin Antibodies

TAT 5 DAYS

DVT1

A A B [9]

VON WILLEBRAND PROFILE

Von Willebrand Factor
Von Willebrand Activity (Ristocetin Cofactor)
Factor VIII Assay

TAT 5 DAYS

FVWF

C C C [4,12]

THROMBOTIC RISK PROFILE

FBC
Coagulation Profile
Antithrombin III
Factor V Leiden
Common Mutation
Factor II Prothrombin
Common Mutation
MTHFR Common Variants
Lupus Anticoagulant
Protein C
Free Protein S Ag
Anticardiolipin Abs

TAT 5 DAYS

PROP

A A B C C C [18]

ANTENATAL PROFILE

FBC + 5 part Diff
Blood Group and Rh Type
Atypical Antibody Screen
Haemoglobin Electrophoresis
Syphilis IgG/IgM
Glucose
FT4/TSH
Rubella Antibodies (IgG)
Toxoplasma (IgG/IgM)
Hepatitis B sAg
Hep C Abs
Varicella Zoster IgG (Immunity)
HIV 1 & 2 Abs

TAT 3 DAYS

Please ensure the blood group (EDTA) tube label is HANDWRITTEN. Do not affix a secondary label.

ANTE

A A [33] B B B G

NATURAL KILLER PROFILE 2

CD3
CD4
CD8
CD16/CD56
CD19

TAT 2 DAYS

NKP2

A

Microbiology

TEST	CODE	SAMPLE REQS	TAT
16S rRNA Bacterial Gene	16S	**J**	1 week
18S rRNA Fungal Gene	18S	**J**	1 week
Aspergillus Precipitins	ASPP	B	5 days
Beta D Glucan	XBDG	B	3 days
Blood Culture[#]	BCUL	2 x **BC**[4]	6 days +
Campylobacter Jejuni Antibodies	CJAB	B	5 days
Candida (Culture)	CANC	**STM / CS**	2-4 days
Candida Antibodies	CANA	B	5 days
Candida Antigen	CCAG	B	5 days
Carbapenemase producing organism screen	MDR	**STM** (rectal)	4-5 days [‡]
Clostridium Difficile Toxin by PCR	CLOS	**RF***	2 days
Cryptococcal Antigen	CRYC	**Serum** or **CSF**	1 day
Cryptosporidium	CRPO	**RF**	2 days
CSF for Microscopy and Culture	CSF	**CSF**	1-3 days
Culture (Any site)	CULT		up to 5 days
Faecal Occult Blood/FOB (immunochemical/FIT)	QFIT	**QFIT**	1 day
Fluid Culture	FLUD	**SC**	2-7 days
Fluid for Crystals	FLU2	**SC**	1 day
Fungal ID + Sens	FUID	**Fungal sample / STM**	14 days
Fungal investigations (superficial/dermatophyte PCR test) – see page 48	DERM	Skin, Hair, Nails	3-7 days
Fungal investigations (non-superficial extended culture) – see page 48	FUN	All specimens other than Skin, Hair and Nails	From 3 days
Galactomanan (Aspergillus Antigen)	SGAL	B	2 weeks
Gonorrhoea (Culture)	GONN	**CS** [‡‡‡]	2-3 days
Group B Strep	GBSX	2 x **STM**	3-4 days
H. pylori Antigen (Stool)	HBAG	**RF**	3 days
H. pylori Culture	HPCU	**J**	3 weeks
HVS	HVS	**STM / CS** [‡‡‡‡]	2-4 days
IUCD for Culture	IUCD	Send Device	11-12 days
Legionella Urine Antigen	LEGA	**RU**	1 day

[#] Please contact the Phlebotomy at Patient Reception 020 7307 7383 for further details, as needed.
Blood cultures must be taken prior to any other blood samples.
The aerobic bottle must be collected first, followed by the anaerobic bottle.
Each bottle should be filled with 8-10 ml of blood, use the markings on the bottles to achieve this.

- Other bloods can be collected but must be collected **after** the blood cultures.
- Bottles must be labelled with the patient's identification details.
- Bottles and Request Form need to give the **time taken** and the **body site** that the blood was taken from. Ensure that the bottle barcodes are not obscured when adding patient labels.
- Send the blood cultures to the laboratory without delay.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Microbiology

TEST	CODE	SAMPLE REQS	TAT
MRSA (Rapid PCR) one swab per site	MRSA	**Blue Micro Swab**	4 hours
MRSA Culture one swab per site	MRSW	**Blue Micro Swab**	2 days
Mycology/Skin Scrapings by PCR	DERM	Submit Sample	3-7 days
Nail Clippings	DERM	**Nail clippings**	3-7 days
Pleural Fluid for Culture	FLUP	**SC**	7 days
Pneumococcal Antigen	PNAG	**RU**	1 day
Pneumocystis Jiroveci (PCP) Examination	PCYS	**BAL**‡‡	2-3 days
NEW **Prostatitis Screening Panel** – see page 44 for sample details	PROS	**VB1U** + **VB2U** + **EPS** or **EPSW** + **VB3U**	4-5 days
Rapid Strep (incl. m/c/s)	RAPS	**STM****	1-3 days**
Schistosoma (Urine)	USCH	Mid-morning terminal urine following exercise [14]	1-2 days
Sellotape Test	SELL	Send Sample***	1 day
Semen Culture	SPCU	**Semen**	2-4 days
Skin Scrapings/Mycology by PCR	DERM	Send Sample	3-7 days
Specific Gravity (Urine)	USG	**RU**	24 hours
Sputum for Routine Culture	SPU1	**SC**	2-4 days
Sputum for TB Culture (AFB)	SPU2	**SC**	up to 8 weeks
Stool for OCP and Culture	PENT	**RF**	2-3 days
Stool for OVA Cysts & Parasites by PCR	OCP	**RF**	1 day
Stool Reducing Substances	STRS	**RF** [7]	5 days
Swab (Cervical)	CERS	**STM / CS**	2-4 days
Swab (Ear)	EARS	**STM**	2-4 days (Culture) 8-9 days (Fungal) – same swab
Swab (Eye)	EYES	**STM**	2-4 days

* Not performed on formed stool specimens.

** Do not use a black swab for RAPS. Use **Blue** only. Rapid antigen is reported within 4 hours with full culture to follow.

*** Use clear Sellotape only and attach to slide.

**** Culture techniques have been discontinued, please send PCR (see Sexual Health section for full details).

‡ Presumptive positive isolates will be sent to the PHE reference laboratory for confirmation.

‡‡ BAL: Induced sputum or bronchoalveolar larage.

‡‡‡ The optimal sample type from the female genital tract is an endocervical swab. Gonorrhoea does not survive well outside the endocervical epithelium; a negative gonorrhoea culture result from a vaginal swab is not reliable for excluding infection.

‡‡‡‡ Culture for Mycoplasma, Ureaplasma and Trichomonas vaginalis has been discontinued due to the superiority of molecular methods. If investigations for Mycoplasma genitalium, Ureaplasma or Trichomonas vaginalis are required please request PCR testing (see Sexual Health section).

† Please state site of swab collection on **both** request form and swab label.

†† Please provide relevant travel history. If travel history is not provided, stool will be investigated for endemic pathogens only [Campylobacter, Salmonella, Shigella, Shigatoxin-producing E coli (VTEC), Cryptosporidium and Giardia].

††† If prosthetic joint is present please state in clinical details to ensure that enrichment culture is prolonged for 14 days.

†††† Optimal sample type for urine culture is a mid-stream clean catch urine sent in a sterile pot containing boric acid preservative.

Microbiology

TEST	CODE	SAMPLE REQS	TAT
Swab (Nasal)	NASS	**STM**	2-4 days
Swab (Oral)	ORSW	**STM / CS**	2-4 days
Swab (Penile)	PENS	**STM / CS**	2-4 days
Swab (Rectal)	RECG	**STM / CS**	2-4 days
Swab (Skin)	SKIS	**STM**	2-4 days
Swab (Throat)	THRS	**STM**	2-4 days
Swab (Urethral)	URES	**STM / CS**	2-4 days
Swab (Vaginal)	VAGS	**STM / CS**	2-4 days
Swab (Vulval)	VULV	**STM / CS**	2-4 days
Swab (Wound)	WOUS	**STM**	2-4 days
Synovial Fluid (for microscopy and culture)	FLU2	**SC** †††	14 days
TB (pleuralfluid)	TBCU	**SC**	up to 8 weeks
TB Culture	SPU2	**SC**	up to 8 weeks
TB Culture (Urine)	TBUR	3 x **EMU**	up to 8 weeks
TB Slopes – Confirmation and Sensitivity	TBSL	**TB slope** (LJ medium-green)[6]	up to 8 weeks
Tissue for culture	TISS	**Tissue sample**	up to 14 days
Urine (Microscopy Only)	UMIC	**RU**	1 day
NEW **Urine for Extended Culture** – Request from outset, not as an add on	UCXD	**MSU**	up to 7 days
Urine for Microscopy and Culture	UCEM	**MSU** ††††	1-2 days

PROSTATITIS SCREENING PANEL

Sample types:
VB1U: first-pass urine (pre-prostatic massage)
VB2U: mid-stream urine (pre-prostatic massage)
EPS: expressed prostatic secretion fluid
or
EPSW: expressed prostatic secretion fluid swab
VB3U: first-pass urine (post-prostatic massage)

Please clearly label **each sample** individually **BY CODE** – send to the laboratory in one sample bag

NEW 2022 | TAT 4-5 DAYS

PROS

VB1U + **VB2U** + **EPS** or **EPSW** + **VB3U**

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Microbiology

URINE CULTURE PROCESSING AND RESULTS

All urine culture testing is performed using manual methods. The culture pathway adheres to national guidance and is a fully UKAS-accredited method.

Manual testing allows a larger amount of urine to be tested than previous automated method, which enables the laboratory to detect lower bacterial counts (as low as 103 cfu/mL) and also facilitates the follow up of significant organisms grown from mixed cultures.

If the culture result is indicative of urinary tract infection, antibiotic susceptibilities will be tested from the culture growth and will be available 24 hours after the culture result. 'Direct sensitivities' are no longer performed. Direct susceptibility testing is not inoculum-controlled, produces inaccurate results and is not UKAS-accredited.

Culture results should be interpreted alongside the microscopy WBC count and clinical signs and symptoms. Significant growth on culture in the absence of pyuria may be suggestive of contamination with regional flora rather than true infection. It should be noted, however, that WBC degrade in urine quite rapidly and delays between sample collection and microscopy may lead to falsely low WBC readings which may account for these findings.

What does the result 'No significant growth' mean?

The amount of growth falls below the threshold for urinary tract infection (< 103 cfu/mL).

There is no laboratory evidence of urinary tract infection.

Occasionally, this may be seen in very early stages of infection or in a partially treated urinary tract infection. Therefore, please send a repeat specimen if symptoms persist.

What does the result 'mixed growth doubtful significance' mean?

This means that the culture revealed a heavy growth of at least 3 organisms with no predominating organism; this represents contamination of the urine with the patient's flora during collection.

This result does not exclude urinary tract infection but it is not possible to determine the causative organism among the mixture of organisms.

If symptoms persist, please send a repeat urine specimen and ensure that patient understands optimal collection technique.

If you are receiving a lot of 'mixed growth of doubtful significance' results, please consider the following:

- **The instructions that patients are given to collect their urine sample**

  Poor collection technique is the most common reason for a heavily mixed growth in a urine sample. It is almost impossible to collect a urine sample without any contamination from the normal bacterial flora which inhabits the area surrounding the urethral opening, but optimal collection technique will minimise this contamination and allow the true infective cause to stand out and be identified (a patient instruction leaflet is available).

- **Delays between sample collection and laboratory processing**

  The time between sample collection and laboratory processing can allow small amounts of contaminating bacterial flora to multiply up to higher amounts prior to laboratory testing, which can result in heavy mixed growth of bacteria on culture. Using a red topped specimen pot containing boric acid preservative will minimise this.

Microbiology

RED TOPPED BORIC ACID CONTAINERS

The preservative reduces the overgrowth of organisms and, to a lesser extent, reduces the degradation of white cells during transit leading to a more accurate laboratory result for both microscopy and culture. UKAS recommends the use of boric acid containers for all urine sample for microscopy and culture (Urine M,C&S) to improve the quality of microbiological results.

Red topped boric acid containers are for requests for urine microscopy and culture (MC&S) ONLY. Boric acid container should NOT be used for:

- **Other urine microbiology tests (e.g. investigations for Chlamydia, Mycobacterium, Schistosomiasis, urinary antigen testing)**
- **Urine samples being analysed by PCR methodology**
- **Urine samples for non-microbiology tests (e.g. biochemistry, virology, pregnancy testing)**
- **Very small urine volumes (<20ml) e.g. neonates**

Use of urinary dipsticks: boric acid may inhibit leukocyte esterase dipstick readings; dipstick testing performed on a sample in a boric acid container should be interpreted with caution.

If additional tests are required in addition to urine microscopy and culture, **an additional sample in a white-topped universal container should be sent**. In this case, it is advised that the mid-stream clean catch urine is collected in a sterile bowl and then transferred to the necessary specimen containers.

If, despite these measures, a patient has recurrent mixed growth reports from multiple urines, it may suggest that your patient has abnormal urinary tract architecture, immunosuppression or other non-infective cause that requires different laboratory investigations or referral to a specialist. If further information is required, please telephone the laboratory and ask to discuss the case with one of our consultant Microbiologists.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Microbiology

Swabs: Types and Codes

Patient Request Forms AND **Swabs** should be labelled with the body site from which the sample was taken. **This is important**. The swab site determines the appropriate culture media required to target the most likely pathogens.

SITE	CODE	SAMPLE TYPE
Culture Swabs		
Candida Only Swab	CANC	**Black** or **Blue** Micro Swab
Cervical Swab	CERS	**Black** or **Blue** Micro Swab
Ear Swab	EARS	**Blue** or **Orange** Micro Swab
Eye Swab	EYES	**Blue** or **Orange** Micro Swab
Gonorrhoea	GONN	**Black** Charcoal Swab
High Vaginal Swab	HVS	**Black** or **Blue** Micro Swab
Nasal Swab	NASS	**Blue** or **Orange** Micro Swab
Oral Swab	ORSW	**Black** or **Blue** Micro Swab
Penile Swab	PENS	**Black** or **Orange** Micro Swab
Rectal Swab	RECG	**Black** or **Blue** Micro Swab
Skin Swab	SKIS	**Blue** Micro Swab
Throat Swab	THRS	**Blue** Micro Swab
Urethral Swab	URES	**Black** or **Orange** Micro Swab
Vaginal Swab	VAGS	**Black** or **Blue** Micro Swab
Vulval Swab	VULV	**Black** or **Blue** Micro Swab
Wound Swab	WOUS	**Black** or **Blue** Micro Swab
MRSA by Culture	MRSW	**Blue** Micro Swab x 1 – state site
	MRW2	**Blue** Micro Swab x 2 – state sites
	MRW3	**Blue** Micro Swab x 3 – state sites
	MRW4	**Blue** Micro Swab x 4 – state sites
	MRW5	**Blue** Micro Swab x 5 – state sites
Note: This PCR methodology uses **Blue** Micro Swabs	MRSA	**Blue** Micro Swab x 1 – state site
	MRS2	**Blue** Micro Swab x 2 – state sites
	MRS3	**Blue** Micro Swab x 3 – state sites
	MRS4	**Blue** Micro Swab x 4 – state sites
	MRS5	**Blue** Micro Swab x 5 – state sites

Blue Micro/Transwab
are multipurpose, culture swabs in transport medium

Orange Micro/Transwab
are small, thin wire culture swabs in transport medium

Black Charcoal Micro/Transwab
Wound, skin and urogenital.

Key: See page 23 for sample-taking and special handling instructions.

Microbiology

PCR METHODS FOR THE DETECTION OF DERMATOPHYTE FUNGAL CULTURES

The detection of Dermatophyte fungal cultures uses High Sensitivity PCR testing. This reduces the overall turnaround time by up to three weeks, and increases the detection of fungal infection compared to combined microscopy and culture. Furthermore the specific targeting pathogens associated with superficial fungal infection is increased which assists in preventing the over reporting of insignificant fungi that are contaminants.

FUNGAL TEST CODES

	Investigation of Superficial Fungal Infection	**Investigation of Non-Superficial Fungal Infection**
Test Code	DERM*	FUN*
Sample type	Nail, Hair, Skin.	All specimens other than Skin, Hair and Nail.
Turnaround time	72 hours for interim PCR report, and 7 days for final culture (unless the fungal culture needs to be extended for significant growth).	7 days (non-sterile e.g. ear swab) and 3 weeks (sterile i.e. CSF).
Notes	• Dermatophyte PCR is replacing microscopy for Nails, Hair and Skin (72 hour TAT). • Non-dermatophyte culture will take 7 days rather than 3 weeks. • Microscopy will be used to confirm significance of rare fungi that may cause infections. • There is no change in the price of this test.	• Non-sterile specimen fungal cultures are performed on Sabouraud's agar plates for 7 days with no microscopy. • Sterile specimen fungal cultures have microscopy (Calcafluor) reported on the day of processing and culture on a Sabouraud's agar slope, incubated for 21 days.

STOOL TEST CODES

Traditional culture methods have been replaced by Real Time PCR for enteric pathogen testing. The benefits are increased sensitivity and a higher detection rate. Once received and processed in the microbiology lab, negative results will be available within 24 hours. Positive results will be followed up with culture and sensitivities for final reporting.

STOOL OCP AND CULTURE		
Sample Type	**Please request as PENT**	**Comments**
Stool	Serosep EntericBio PCR **Bacteria/Bacterial Toxins** • Salmonella • Campylobacter • Shigella • VTEC **Parasites** • Cryptosporidium • Giardia	All stool samples will be tested for UK Pathogens. Overseas pathogens will only be tested if specifically requested and travel history and clinical details are provided. Samples that are positive for the bacterial pathogens will be cultured to provide sensitivities and, if indicated, for PHE referral. Samples will be kept for 7 days after receipt to allow for additional testing if required.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Microbiology

STOOL FOR OCP

Sample Type	Please request as **OCP**	Comments
Stool	Requests for OCP only will include testing for cryptosporidium and giardia by PCR	Overseas pathogens will only be tested if requested and travel history and clinical details are provided.

C. DIFFICILE DETECTION

Sample Type	Please request as **CLOS**	Comments
Stool	Serosep Enteric Bio PCR Alere Techlab EIA (Toxin)	Change to PCR and Elisa methods. Two tier PCR & Toxin *c. diff* screening based on PHE guidance. Improved sensitivity and specificity for both targets tested. Primary *c. diff* gene screening using Enteric Bio PCR. Secondary sequential testing using Alere EIA to confirm Toxin.

GASTRO VIRUS DETECTION (INCLUDING ROTAVIRUS) SEE VIROLOGY

ENTERIC ORGANISM RAPID DETECTION SEE VIROLOGY

Microbiology

GROUP B STREPTOCOCCUS (GBS)

Group B Streptococcus (GBS or group B Strep) is the most common cause of severe infection in newborn babies, and of meningitis in babies under age 3 months. On average in the UK:

- 2 babies a day develop group B Strep infection
- 1 baby a week dies from group B Strep infection
- 1 baby a week survives group B Strep infection with long term disability

Most GBS infection is of early onset, presenting in babies within the first 6 days of life, and usually within the first 12 hours after birth. Between age 7 days and 3 months, these infections are rare, and in babies over 3 months they are very rare indeed.

Most early-onset GBS infections (in babies aged 0-6 days) can be prevented by giving intravenous antibiotics in labour to women whose babies are at raised risk of developing GBS infection. In the UK, women are offered IV antibiotics in labour based on specific risk factors.

GBS is normal flora of the distal GI tract. Up to 30% of women carry it harmlessly in their vaginal tract. Vaginal carriage at the time of vaginal delivery can result in transmission of GBS to baby. Babies are more vulnerable to infection as their immature immune systems cannot fight off the multiplying bacteria. If untreated, GBS can cause serious infections, such as meningitis and septicaemia, which may lead to stillbirths, and newborn and infant deaths. If they survive, babies can develop permanent problems including hearing or vision loss, or cerebral palsy.

Current GBS prevention focuses on giving intravenous antibiotics to women in labour, aiming to reduce disease in infants at delivery. 2 x **Blue culture swabs** (lower vaginal and lower rectal) should ideally be taken from 35 weeks. Swabs will be placed in enrichment culture in the microbiology laboratory to ensure maximal detection.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Endocrinology

TEST	CODE	SAMPLE REQS	TAT
11 Deoxycorticosterone	DEOX	B	10 days
11 Deoxycortisol	11DC	B (Frozen)	10 days
17 Hydroxyprogesterone	17OH	B	5 days
ACTH (Adreno Corticotrophic Hormone)	ACTH	A (Plasma Frozen)[41]	1 day
Aldosterone	ALDN	A or B	5 days
Aldosterone (Urine)	UALD	**PU**	5 days
Alpha Feto Protein	AFP	B	4 hours
Amenorrhoea Profile	AMEN	B	4 hours
Andropause Profile	ANDP	B B	8 hours
Androstenedione	ANDR	B (Frozen)	4 days
Antidiuretic Hormone	ADH	A A (Plasma Frozen)[4]	10 days
Antimullerian Hormone (AMH Plus)	AMH	B	4 hours
Beta HCG (Quantitative)	QHCG	B	4 hours
BNP (NT-pro BNP)	BNP	B	4 hours
C Peptide	CPEP	B	3 days
Calcitonin	CATO	B (Frozen)[4]	1 day
Catecholamines (Plasma)	CATE	A A (Plasma Frozen)[4]	5 days
Catecholamines (Urine)	UCAT	**PU**[1]	5 days
Cortisol	CORT	B	4 hours
Cortisol (Urine)	UCOR	**CU**	5 days
DHEA	DHEX	B	7-10 days
DHEA – Urine (Dehydroepiandrosterone)	UDHE	**CU**	3 weeks
DHEA Sulphate	DHEA	B	4 hours
Dihydrotestosterone	DHT	B B	7 days
Down Syndrome Risk Bloods only (Risk to be calculated by clinician)	HCGF/ PAPA	B	4 hours
Down Syndrome Risk Profile (2nd trimester) Quad	DRP	B DRP form[7,8]	2 days
Down Syndrome Risk Profile with risk calculation first trimester	DRP	B DRP form + image of scan[7,8]	2 days
Erectile Dysfunction Profile	IMPO	A B B G	3 days
Female Hormone Profile	FIP	B	4 hours
First Trimester Antenatal Screen (Risk to be calculated by requesting clinician)	HCGF/ PAPA	B	4 hours
Free Cortisol (Urine)	UCOR	**CU**	5 days
Free T3	FT3	B	4 hours
Free T4	FT4	B	4 hours
FSH	FSH	B	4 hours
Growth Hormone (Fasting)	GH	B [7,35]	4 hours
Gut Hormone Profile	GUTP	A A (Frozen within 15 minutes)[41]	3 weeks
Hirsutism Profile	HIRP	B	4 hours
HRT Profile 1	HRT	B	4 hours
HRT Profile 2	HRT2	B G	4 hours

Endocrinology

TEST	CODE	SAMPLE REQS	TAT
IGF-1 (Somatomedin)	SOMA	B (Frozen)[4]	1 day
IGF-BP3	IGF3	B (Frozen)[4]	5 days
Impotence Profile	IMPO	A B B G	3 days
Inhibin A	INIA	B	1 month
Inhibin B	INIB	B (Day 3 of cycle, frozen)	5 days
Insulin	INSU	B	4 hours
Insulin Resistance (Fasting)	FIRI	B G	4 hours
Luteinising Hormone (LH)	LH	B	4 hours
Macroprolactin	PRLD	B	4 days
Male Hormone Profile	MIPR	B	4 hours
Melanin	MELA	**RU**[13]	5 days
Melatonin (Serum)	MEL	B (Frozen)	5 days
Melatonin (Urine)	UMEL	**CU**[13]	2 weeks
Menopause Profile	MENO	B	4 hours
Metabolic Syndrome Profile	METS	A B B G	9 days
Metanephrines (Plasma)	PMET	A (Frozen plasma)	7 days
Metanephrines (Urine)	UMEX	**PU**[1]	5 days
Oestradiol (E2)	OEST	B	4 hours
Oestriol (Estriol)	E3	B B	4 days
Oestrone	E1	B B	4 days
Osteocalcin	OST	B (Frozen)[4]	4 days
Parathyroid Hormone (Whole)	PTHI	B[4]	1 day
Pituitary Function Profile	PITF	B B	1 day
Polycystic Ovary Syndrome Profile	PCOP	A B B B G[7]	5 days
Polycystic Ovary Syndrome SHORT	PCOS	B G	4 hours
Pregnancy (Serum) [Quantitative]	QHCG	B	4 hours
Pregnanetriol (Urine)	UPTR	**CU** (Frozen)	5 days
Pregnenolone	PREN	B	15 days
Progesterone	PROG	B	4 hours
Proinsulin	PROI	A (Frozen plasma)[4]	5 days
Prolactin	PROL	B	4 hours
Prolactin (Macro)	PRLD	B	4 days
Renin	RENI	A (Frozen plasma)[36]	5 days
Reverse T3	RT3	B[7,37]	10 days
Serotonin	SERT	H (Frozen whole blood)[1]	10 days
Serotonin (Urine)	USER	**PU** 50mls (Frozen)[1]	5 days
Sex Hormone Binding Globulin	SHBG	B	4 hours
Somatomedin (IGF-1)	SOMA	B (Frozen)[4]	1 day
T3	T3	B	4 hours
T3 (Reverse)	RT3	B[7,37]	10 days
Testosterone	TEST	B	4 hours
Testosterone (Bioavailable)	BTES	B	5 days
Testosterone (Free)	FTES	B	3 days

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Endocrinology

TEST	CODE	SAMPLE REQS	TAT
Thyroglobulin Abs	TGAB	B	1 day
Thyroglobulin Assay	TGA	B	1 day
Thyroid Abs (incl. Thyroglobulin + Thyroid Peroxidase Abs)	THAB	B	1 day
Thyroid Peroxidase Antibodies/Anti TPO	TPEX	B	1 day
Thyroid Profile 1	TF	B	4 hours
Thyroid Profile 2	TF2	B	2 days
Thyroid Profile 3	TF3	B	4 hours
Thyroxine (T4)	T4	B	4 hours
Thyroxine Binding Globulin	TBG	B (Frozen)	10 days
TSH	TSH	B	4 hours
TSH-Receptor Antibodies	TSI	B	4 days

REPRODUCTIVE IMMUNOLOGY AT ROSALIND FRANKLIN LABORATORIES, CHICAGO, USA

TEST	CODE	SAMPLE REQS	TAT
Endometrial Biopsy Immune Profiling	23RF	**J** (Contact Referrals)	2 weeks
Reproductive Immunophenotype Panel	3RF	H H H	1 week
NK Assay/Cytotoxicity Panel	4RF	H H H	1 week
NK Assay Follow-Up Panel	5RF	H H H	1 week
TH1/TH2 Cytokine Ratio	6RF	H H H [5]	1 week
Leucocyte Antibody Detection Panel MALE	7RF	H H H [3,4,6]	1 week
Leucocyte Antibody Detection Panel FEMALE	8RF	B	1 week
HLA DR Antigens	9RF	A A	2 weeks
HLA DQ Alpha Antigens	10RF	A A	2 weeks
HLA DQ Beta Antigens	11RF	A A	2 weeks
NK Assay Panel + Intralipids	16RF	H H H	1 week
KIR (Killer-like Immunoglobulin-like Receptors) Genotyping	17RF	A A A	2-3 weeks
TH1/TH2 Intracellular Cytokine Ratios with IVIG, Prednisolone	20RF	H H H [5]	1 week
TH1/TH2 Intracellular Cytokine Ratios with IVIG	21RF	H H H [5]	1 week
TH1/TH2 Intracellular Cytokine Ratios with Prednisolone	22RF	H H H [5]	1 week
T Regulatory Cells	25RF	H	3 days

Patients who have samples taken at TDL's Patient Reception at 76 Wimpole Street may attend any time during hours of opening on Mondays or Tuesdays, and by **NOON on Wednesdays to allow for same day shipping to Chicago by Fed Ex**. Samples for Rosalind Franklin are not accepted on Thursdays, Fridays or Saturdays. Fed Ex charges are included in these charges.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Endocrinology

REPRODUCTIVE IMMUNOLOGY AT ST HELIER, CARSHALTON

TEST	CODE	SAMPLE REQS	TAT
NK (CD69) Cell Assay	CD69	H*	Send Mon-Thurs only
NK Cytotoxicity Assay	HSNK	HHH*	Send Mon-Thurs only
NK (CD69) and NK Cytotoxicity	69C	HHH*	Send Mon-Thurs only
NK Cytotoxicity with suppression, steroid, IVIg & Intralipin	NKCY	HHH*	Send Mon-Thurs only
NK Cytotoxicity with suppression with steroid, IVIg and intralipin, and NK (CD69) cell assay	69CI	HHH*	Send Mon-Thurs only
TH1/TH2 Cytokine Profile	1TH2	HHH*	Send Mon-Thurs only
Suppression with steroid, IVIg and intralipin, NK (CD69) cell assay, TH1/TH2 cytokines	NCIT	HHH*	Send Mon-Thurs only

* Patients need to attend Patient Reception at 76 Wimpole Street by **11.00am latest Mondays – Thursdays**. Samples cannot be accepted on Fridays, Saturdays or Sundays. Allow 2 days for results.

Endocrinology

THYROID PROFILE 1

FT4
TSH

TAT 4 HOURS

TF

B

THYROID PROFILE 2

T4
TSH
Free T3
Free T4
Thyroglobulin Abs
Thyroid Peroxidase

TAT 2 DAYS

TF2

B

THYROID PROFILE 3

FT3
FT4
TSH

TAT 4 HOURS

TF3

B

FEMALE HORMONE PROFILE

LH
FSH
Prolactin
Oestradiol (17-Beta)

TAT 4 HOURS

FIP

B

MALE HORMONE PROFILE

FSH
LH
Testosterone
Free Androgen Index
Prolactin
SHBG

TAT 4 HOURS

MIPR

B

ANDROPAUSE PROFILE

DHEAs
FSH
Testosterone
Free Androgen Index
LH
SHBG

TAT 8 HOURS

ANDP

B B

ERECTILE DYSFUNCTION/ IMPOTENCE PROFILE

Lipid Profile
Glucose
HbA1C
TSH
Prolactin
Total Testosterone
Free Testosterone
PSA
SHBG
Free Androgen Index

TAT 3 DAYS

IMPO

A B B G

More Hormone Profiles are shown on page 52

ANTIMULLERIAN HORMONE (AMH PLUS)

Age related reference intervals in women

The reference intervals below are derived from a population of apparently healthy women not taking any contraceptive medication. The reference intervals represent the 10th – 90th percentile values for the women in each age bracket.

Age Range	Elecsys AMH (pmol/L)
20 – 29 years	13.1 – 53.8
30 – 34 years	6.8 – 47.8
35 – 39 years	5.5 – 37.4
40 – 44 years	0.7 – 21.2
45 – 50 years	0.3 – 14.7

TAT 4 HOURS

AMH

B Samples can be taken, at any time during a patient's monthly cycle. Ambient, unspun sample stability has been validated for up to 5 days. Postal samples are therefore acceptable, and samples can also be collected and posted using TDL TINIES.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Endocrinology

HRT PROFILE 1

FSH
Oestradiol (17-Beta)
Progesterone

TAT 4 HOURS

HRT

B

HRT PROFILE 2

Lipid Profile
Glucose
FT4
TSH
FSH
OEST

TAT 4 HOURS

HRT2

B G

AMENORRHOEA PROFILE

LH
FSH
Prolactin
Oestradiol (17-Beta)

TAT 4 HOURS

AMEN

B

METABOLIC SYNDROME PROFILE

Lipid Profile
Glucose
HbA1C
Insulin
hsCRP
Adiponectin

TAT 9 DAYS

METS

A B B G

PITUITARY FUNCTION PROFILE

TSH
FSH
LH
Prolactin
Growth Hormone
Cortisol

Please provide details of time of day sample is taken. Patient should be resting for 30 mins before sample taking.

TAT 1 DAY

PITF

B B

POLYCYSTIC OVARY SYNDROME: SHORT

Testosterone
SHBG
FAI
FSH
LH
Glucose
Insulin
Lipid Profile
FT4/TSH

TAT 4 HOURS

PCOS

B G

MENOPAUSE PROFILE

FSH
LH
Oestradiol (17-Beta)
TSH
FT4

TAT 4 HOURS

MENO

B

FIRST TRIMESTER SCREENING BLOODS ONLY (Risk to be calculated by requesting clinician)

Free β-hCG
PAPP-A

Free β-hCG and PAPP-A in serum and sonographic determination of nuchal translucency (NT) are markers of choice to identify women at increased risk of Down Syndrome during the first trimester (week 11-13) of pregnancy.

TAT 4 HOURS

HCGF/PAPA

B

POLYCYSTIC OVARY SYNDROME PROFILE

Testosterone
TSH
Glucose
HbA1C
FSH
DHEAs
Insulin
LH
17 Hydroxyprogesterone
Lipid Profile
Prolactin
Cortisol
Antimullerian Hormone
Androstenedione
SHBG

A fasting 9.00am sample is recommended.

TAT 5 DAYS

PCOP

A B B B G [7]

HIRSUTISM PROFILE

FSH
LH
Testosterone
DHEAs
SHBG

TAT 4 HOURS

HIRP

B

Key: See page 23 for sample-taking and special handling instructions.

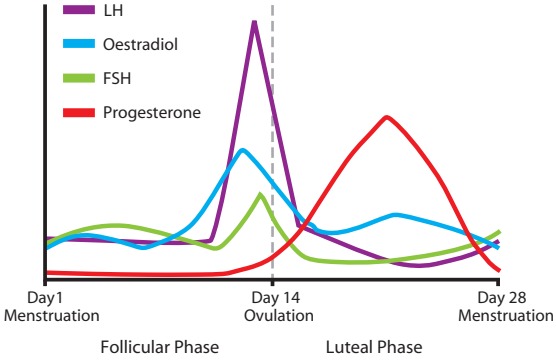
Reproductive health

The tests in this section are drawn from all disciplines of diagnostic pathology and are listed in other appropriate sections in the Laboratory Guide.

PUBERTY

The beginning of the reproductive cycle of life – diagnosis tests may include:

- Oestradiol
- FSH
- LH
- Progesterone
- Androstenedione
- DHEA sulphate
- Testosterone
- SHBG
- Prolactin



THE MENSTRUAL CYCLE/PREGNANCY

This cycle controls female fertility and is influenced by hormone levels which impact bone health and many other aspects of female physiology. Pregnancy lasts 40 weeks and is divided into trimesters.

First Trimester (week 0–13): confirmation of pregnancy and associated tests may include:

- Pregnancy test (urine)
- Quantitated Beta HCG (serum)
- Ectopic Pregnancy assessment (Beta HCG and Progesterone)
- Recurrent Miscarriage Profile
- Antenatal Screen
- Nuchal Scan with Free Beta HCG and PAPP-A or Non-Invasive Prenatal Test (Harmony) for risk assessment of Downs Risk (a DRP request form must be enclosed with samples, see back of guide, and an image of the scan attached to the request form). Contact TDL Genetics for details of Non-Invasive Prenatal Testing (NIPT)
- Chorionic Villus Sampling (CVS) for chromosomal analysis (PCR for Rapid Trisomy and karyotyping for the rarer abnormalities)
- Toxoplasma/Varicella Zoster/Parvovirus/CMV

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Reproductive health

Second Trimester (week 14–26):
testing is primarily directed at evaluating the actual and potential development of the baby and may include:

- Downs Risk Profile (Triple Test +)
- Amniocentesis for chromosomal analysis (AmnioPCR for Rapid Trisomy and karyotyping for the rarer abnormalities)
- Glucose and Protein (urine or serum)

Third Trimester (week 27–40):
testing for foetal wellbeing and the health of the mother may include:

- Glucose and Protein (urine or serum)
- Toxoplasma
- Atypical antibody screening
- Group B Strep (From 35 weeks – rectal and low vaginal swabs)
- Chlamydia

INFERTILITY

Infertility and its management is increasingly implicated in growing numbers of clinical disciplines. More recently, greater emphasis is being given to male infertility. Recent data suggests that approximately 40% of all infertility is ascribed entirely, or in part, to male factors, 40% to female factors with an additional 20% unexplained. Testing at the outset of infertility treatment can reduce some of the emotional and financial costs, as well as allowing couples to pursue other possible options.

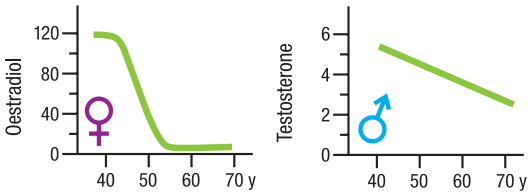
- Hormones
- Lifestyle/Environmental
- Ovarian Reserve
- Unexplained Infertility/Implantation failure
- Male Factors
- Infection
- Chromosomes/Genetics
- Polycystic Ovary Syndrome
- Recurrent/Spontaneous miscarriage

AGEING

Reaching menopause and andropause is a gradual process with modulating hormones as ovarian function declines in women, and the more gradual, less defined and highly variable effect in men. Testing may include:

- Hormones (Menopause/Andropause Profile)
- Testosterone/Free testosterone/ Bioavailable Testosterone
- SHBG
- DHEAs
- Thyroid function
- Osteoporosis/Bone Markers

General patterns of age-related decline in estradiol levels in women (left) and total testosterone levels in men (right)



Reproductive health

INFERTILITY

HORMONES

FEMALE	MALE
FSH – day 2/3	Testosterone/Prolactin/FSH/LH
LH	Sex Hormone Binding Globulin
Oestradiol	Inhibin B (male)
Antimullerian Hormone (AMH)	Male Hormone **Profile**
Progesterone – day 21	Andropause **Profile**
Female Hormone **Profile**	Insulin Resistance
Prolactin	Erectile Dysfunction
	Impotence **Profile**

INFECTION

FEMALE	MALE
High Vaginal swab	Investigations for prostatitis/urethritis
Cervical swab	Mycoplasma Genitalium
Bacterial Vaginosis screen	Ureaplasma
Toxoplasma	Chlamydia/Gonorrhoea
Chlamydia/Gonorrhoea	Chlamydia in Semen
CMV	Hep B sAg/Hep B Core Abs/Hep C/HIV 1&2
Syphilis	Herpes Simplex I/II by PCR
Hep B sAg/Hep B Core Abs/Hep C/HIV 1&2	Semen culture
Herpes Simplex I/II by PCR	Syphilis
STI **Profiles**	STI **Profiles**
Infection screening by PCR	Infection screening by PCR

LIFESTYLE/ENVIRONMENT

FEMALE	MALE
Well Person **Profile** DL6	Fit for Fertility Male Profile
Zinc, Lead	Well Person **Profile** DL6
Trace Metal **Profile** (blood)	Trace Metal **Profile** (blood)
Antioxidant Activity	Antioxidant Activity
Thyroid **Profiles**	Thyroid **Profiles**
Vitamin **Profiles**	Vitamin **Profiles**
Vitamin D (25 OH)	Vitamin D (25 OH)
Folate	Folate
Selenium	Selenium
Omega 3/Omega 6	Zinc
	Omega 3/Omega 6
	Oxidative Stress (ROS) in Semen

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Reproductive health

CHROMOSOMES/GENETICS

FEMALE	MALE
Chromosome/Karyotype (parental)	Chromosome/Karyotype (parental)
Fragile X (female)	Male Hormone **Profile**
Cystic Fibrosis Screen	Y-Chromosome microdeletion
Tay Sachs	Fragile X Male
Carrier Screen (Ashkenazi Jewish) **Screen**	Cystic Fibrosis Screen
Inherited disorders (specific)	Tay Sachs
	Carrier Screen (Ashkenazi Jewish) **Screen**
	Inherited disorders (specific)

OVARIAN TUMOUR

FEMALE	
Antimullerian Hormone (AMH)	CA125/HE4

POLYCYSTIC OVARY SYNDROME

FEMALE
Polycystic Ovary **Profile**

UNEXPLAINED INFERTILITY/IMPLANTATION FAILURE /RECURRENT MISCARRIAGE

FEMALE	MALE
Recurrent Miscarriage **Profile**	Chromosome/Karyotype (parental)
Reproductive Immunophenotyping (CD 3/4/8, CD 5/19, CD 16/56/69)	Y-Chromosome microdeletion
NK Cell **Profile**	Sperm DNA Fragmentation
Antiphosholipid Antibodies	Sperm aneuploidy
Lupus anticoagulant and Anticardiolipin Antibodies	Infection screening (See Infection)
Thrombotic **Profile**	Heavy Metals (Blood)
Antinuclear antibodies	Male Recurrent Miscarriage **Profile**
Anti-Thyroglobulin Antibodies	Oxidative Stress in Semen (Reactive Oxygen Species)
Chromosome/Karyotype (parental)	
Infection screening (See Infection)	

SPERM HEALTH

MALE
See TDL Andrology on page 62.

TDL Andrology

The single most important factor determining a man's fertility potential is the production of healthy sperm. A semen analysis has classically been used as the marker of this potential, by providing information about the sperm count, motility and morphology. However, there are other parameters given in a semen analysis that are often neglected or overlooked, which may indicate important pathologies – such as infection, prostatic disease, immunological infertility, retrograde ejaculation, malformation or obstruction of the genital tract, tumour, and congenital or endocrine disorders.

Andrology booking can now be done online at **www.tdlpathology.com/andrologybooking**

Early diagnosis of the male factor is important in order to detect any underlying pathology, determine the extent of infertility and ensure appropriate treatment. It may also avoid unnecessary investigations for the female partner, particularly if her age is a limiting factor.

For men who have had a vasectomy, clearance should only be given when there is no evidence of presence of sperm in two consecutive semen samples. It is therefore vital to ensure that results are reported according to best practice guidelines. Special clearance may be given at the doctor's discretion when there are persistent non-motile sperm present.

Guidelines for Producing Samples

Ideally semen samples should be produced on-site at TDL's Patient Reception at 76 Wimpole Street. Ideally patients must abstain from ejaculation for 2-3 days prior to the test, but no less than 2 days and no longer than 5 days before the test. This requirement is important for semen analyses and post vasectomy analyses to ensure reliability of results. It is possible that samples that do not comply with guidelines for abstinence and collection may not be able to be processed. All semen samples must be produced directly into the sterile containers provided by The Doctors Laboratory.

All containers are weighed and batch tested for sperm cytotoxicity. In exceptional circumstances when semen samples are produced off-site, they can only be accepted by the Andrology Department in sample containers provided by TDL.

WHO 2010 guidelines state that two semen analyses should be performed before any diagnosis is confirmed. This may require requests for two (separate) semen analyses.

Appointments

It is important to make an appointment for all semen samples (on or off site) whether for a comprehensive semen analysis or post vasectomy analysis. It may be necessary to give patients who attend without an appointment a specific time to re-attend. The first appointments for post vasectomy samples should usually be 12 weeks and 20 ejaculations after surgery.

Appointments can be made by calling **020 7025 7940**. There is an attendance fee of £45.00 in addition to pathology charges.

Please complete a Pathology Request Form for your patient. If you would like to request other pathology, you can use the same form or complete a second additional form. Results will usually be reported to you within 48 hours.

If you would like to discuss these tests, or any aspect of this service including clinical interpretation by the consultant please contact TDL Andrology on 020 7025 7940 or email andrology@tdlpathology.com for further information.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

TDL Andrology

SEMEN

TEST	CODE	SAMPLE REQS	TAT
Individual Semen Parameters* **	SPOD	**Semen** [1]	1 day
Oxidative Stress in Semen (ROS + MIOXSYS)	SROS	**Semen** [1]	1 day
Retrograde Ejaculation	RTRO	Contact lab	2 days
Semen Analysis, Comprehensive*	SPER	**Semen** [1]	2 days*
Semen Analysis, Post-Vasectomy**	PVAS	**Semen** [1]	2 days
Semen Analysis, Vasectomy Reversal*	SPER	**Semen** [1]	2 days*
Semen Culture	SPCU	**Semen**	2-4 days
Semen Fructose	SPCF	**Semen**	2 days
Semen Leucocytes	PMNS	**Semen**	2 days
Semen Zinc	SPCZ	**Semen**	up to 10 days
Sperm Aneuploidy	SPPL	**Semen** [1]	4 weeks
Sperm Antibodies (Serum)	ASAB	B	5 days
Sperm Antibodies/MAR Test (Semen)†	ASPA	**Semen**	1 day
Sperm Comet®	CMET	**Semen**	1-2 weeks
Sperm Count (Post-Vasectomy)	PVAS	**Semen** [1]	2 days
Sperm DNA Fragmentation (SCSA)	SEXT	**Semen** [1]	1-2 weeks
Sperm Morphology (Kruger strict criteria)	MRPH	**Semen** [1]	2 days

Semen parameters may be requested INDIVIDUALLY (eg count only, vitality only, etc).
Please request as SPOD and indicate on the request form which parameter is required.

Semen Parameters	SPOD	**Semen** [1]	1 day

* If required, comprehensive semen analysis can be reported within 4 hours, with morphology to follow.

** For men who have had a vasectomy, clearance should only be given when there is no evidence of presence of sperm in a single ejaculate when recommendations are met. It is rare that a 'diagnosis' is made without confirmation, therefore patients/clinicians should be able to freely request a second confirmatory sample. Special clearance may be given at the doctor's discretion, when there are <100 000/ml non-motile sperm present after the assessment of two specimens in full accordance with recommendations. Recommendations, as given by the Association of Biomedical Andrologists, the British Andrology Society and the British Association of Urological Surgeons 2016, are as follows:

1 Analysis of post vasectomy semen samples should not occur until 12 weeks post-surgery and after a minimum of 20 ejaculates
2 Semen samples must be analysed within 4 hours of production, and in cases where sperm is found a repeat analysis must be performed within 1 hour of production
3 Semen should be provided in weighed specimen containers provided by TDL Andrology
4 Sexual abstinence should be between 2 and 7 days

*** Semen parameters may be requested **individually** (e.g. count only, vitality only, motility etc.). Please request as SPOD and indicate on the request form which parameter is required.

† Sperm antibodies in semen are measured as part of the routine semen analysis.

TDL Andrology

BY SPECIAL ARRANGEMENT

Sperm swim test
Sperm preparation for overnight survival
Sperm motility and vitality testing for epididymal toxicity
Sperm retrieval procedures (biopsy, PESA, MESA)

Sperm cryopreservation and storage (undertaken by Andrology Solutions – HFEA licensed)

All men who store sperm must be screened for HIV 1&2, Hepatitis B, Hepatitis C and HTLV. Under HFEA regulations, sperm can be stored for an initial period of 10 years with formal consent. All patients are offered counselling prior to sperm cryopreservation.

These arrangements, and details for other specialist semen tests, are available on request. Please contact TDL Andrology on 020 7025 7940 or email sheryl.homa@tdlpathology.com for further information.

Sperm DNA fragmentation

High sperm DNA fragmentation is associated with reduced natural pregnancy rates and assisted conception pregnancy rates as well as live birth rates. In addition, DNA fragmentation leads to higher miscarriage rates as published in the ESHRE Recurrent Pregnancy Loss 2017 Guideline. High levels of DNA fragmentation may be reduced by considering varicocele repair, treatment of underlying infections or inflammation, changes in lifestyle or with antioxidant supplements.

When requesting Sperm DNA Fragmentation there are two options. Please specify whether the request is for sperm DNA fragmentation by **SCSA** or **COMET**.

- **Sperm Chromatin Structure Assay (SCSA®) [SEXT]**

  This test has the ability to measure large numbers of cells (between 5,000 and 10,000 sperm), rapidly in an ejaculate. The SCSA® test monitors the changes in fluorescence of a probe, acridine orange, to detect both single and double DNA strand breaks using flow cytometry. It has been developed using human and animal models over the last 35 years and is one of the most statistically robust tests available for sperm DNA fragmentation. It is a standardised, validated CLIA approved test with high reproducibility and low variability. The test requires a minimum sperm count of approximately 0.1 million/ml.

- **Sperm COMET® Assay [CMET]**

  Exact® tests, powered by SpermComet® technology measure sperm DNA damage. The Exact range of tests are available via healthcare professionals only. Sperm DNA can be damaged when sperm are being made in the testes or as they mature before ejaculation. This damage breaks the DNA into fragments, so sperm DNA tests are also known as sperm DNA fragmentation tests. Men with high levels of sperm DNA damage are less likely to get their partner pregnant and have increased risk of miscarriage. Even if semen analysis results are 'normal', the sperm DNA could be damaged and therefore poor quality. Sperm DNA damage can reduce your chances of having a baby. The Comet® assay can measure both single and double strand breaks. Only a small number of sperm (a minimum of 5,000) sperm are required to perform the assay.

Sperm Aneuploidy

Chromosomal abnormalities may be somatic cell in origin, in which case they can be detected by a simple blood karyotype analysis. However, most sperm chromosome anomalies arise as a result of errors during meiosis, which cannot be detected by a blood karyotype analysis. These anomalies

can only be detected by looking at the sperm chromosomes directly. Studies have shown that sperm with a high rate of aneuploidy have a negative impact on pregnancy rate and are associated with recurrent pregnancy loss.

This test uses fluorescent in situ hybridisation (FISH) to label individual chromosomes with specific probes. Hundreds of sperm are assessed from one ejaculate. There are limitations to the test as only 5 probes are currently used routinely for analysis (three of the 22 autosomes: chromosomes 13, 18 and 21, and the sex chromosomes, X and Y), although others are available upon specific request. The results are reported showing incidence of disomy or nullisomy for each of the autosomes and for both sex chromosomes. A sex chromosome ratio is also reported. It is CE marked.

Instructions for collection of Sperm DNA and Aneuploidy specimens

Sperm DNA Fragmentation or Sperm Aneuploidy testing are not part of the Comprehensive Semen Analysis and need to be requested as a separate test, test code SEXT and SPPL, respectively. Semen samples ideally need to be frozen as soon as possible after liquefaction, but not longer than 60 minutes post ejaculation. Samples must be snap-frozen for Sperm DNA Fragmentation and cryopreserved in TYB for Sperm Aneuploidy. If samples are prepared by another laboratory. Two cryovials containing not less than 0.25 mls of semen is required. Frozen samples can be sent to, or collected by TDL, by arrangement, and must be accompanied with relevant patient details, the sperm count and GDPR consent form. A count of a minimum 0.1 million/ml is required for accurate DNA and aneuploidy reporting.

Oxidative Stress in Semen (ROS + MIOXSYS) and Male infertility

There is now growing evidence to support a link between oxidative stress and male infertility. It is the underlying cause of sperm DNA damage and impairs semen parameters and fertilisation, adversely affects embryo development and is associated with reduced pregnancy rates. It may also increase the risk of miscarriage. High levels of ROS may be reduced by considering varicocele repair, treatment of underlying infections or inflammation, changes in lifestyle or with antioxidant supplements.

TDL provides a comprehensive assessment of oxidative stress by **combined measurement of Reactive Oxygen Species and Redox Potential**. Please request as oxidative stress test (code **ROS**).

The test includes combined testing for:

- **Chemiluminescence Assay for Reactive Oxygen Species**

  Reactive Oxidative stress may be measured by a simple chemiluminescence test in semen, which measures the level of reactive oxygen species.

- **MIOXSYS Electrochemical Assay for Redox Potential**

  Oxidative stress may be determined by an electrochemical assay which measures the redox potential in semen. This test measures the overall difference between total oxidants and antioxidants in the system.

References

Vassiliou A, Martin CH, Homa ST, Stone J, Dawkins A, Genkova MN, Skyla Dela Roca H, Parikh S, Patel J, Yap T, Killeen AP. Redox potential in human semen: Validation and qualification of the MiOXsys assay. Andrologia. 2021 Mar;53(2):e13938. doi: 10.1111/and.13938. Epub 2020 Dec 30. PMID: 33377541.

If you would like to discuss these tests, or any aspect of this service, please contact TDL Andrology on 020 7025 7940 or 020 7307 7373, or email andrology@tdlpathology.com.

TDL Andrology

Effects of ROS-induced Oxidative Stress on Sperm

- Lipid peroxidation which damages the sperm surface causing an abnormal morphology and impaired motility.
- Damage to proteins on cell surface responsible for cell signalling and may affect enzyme function inside the cell.
- Increased semen viscosity.
- Peroxidation of DNA and subsequent unravelling or fragmentation.
- Possible mutagenic effects.
- Damage to seminiferous epithelium, damage to tubules, testicular atrophy, reduced spermatogenesis.
- Decrease in sperm vitality, motility.
- Impaired fertilization by affecting sperm capacitation and the acrosome reaction.

Causes of Elevated ROS Levels

- Genito-urinary tract infection
- Prostatitis
- Vasectomy reversal
- Varicocoele
- Cryptorchidism
- Chronic disease
- Xenobiotics
- Chemical pollutants and occupational hazards
- Heavy metal exposure
- Removal of seminal plasma during sperm preparation for assisted conception
- Drugs – cyclophosphamide, aspirin, paracetamol
- Smoking
- Excessive exercise
- Heat exposure
- Obesity
- Age

Semen samples need specialist handling – for this reason all requests for semen analyses should be made by appointment. Practices or patients should contact TDL Andrology on 020 7025 7940 to make appointments and to confirm instructions for sample collection.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Sexual Health

TEST	CODE	SAMPLE REQS	TAT
7 STI Profile by PCR (7 tests from 1 Sample)	PP12	**FCRU/PCR/TPV**	2 days
Chlamydia (PCR swab)	SPCR	**PCR**	2 days
Chlamydia (Thin Prep)	TPCR	**TPV**	2 days
Chlamydia (Urine)	CPCR	**FCRU**	2 days
Chlamydia/Gonorrhoea (PCR Swab)	SCG	**PCR**	2 days
Chlamydia/Gonorrhoea (Rectal)	RSCG	**PCR**	2 days
Chlamydia/Gonorrhoea (Thin Prep)	TCG	**TPV**	5 days
Chlamydia/Gonorrhoea (Throat)	TSCG	**PCR**	2 days
Chlamydia/Gonorrhoea (Urine)	CCG	**FCRU**	2 days
Chlamydia/Gonorrhoea/Trichomonas by PCR	CCGT	**FCRU/PCR/TPV**	2 days
CT/GC/Trichomonas/Mgen (PCR Swab)	SGTM	**PCR Swab**	2 days
CT/GC/Trichomonas/Mgen (Urine)	CGTM	**FCRU**	2 days
Early Detection Screen PCR/NAAT	STDX	(A) 10mls or 2 x 4mls (Vacutainer only)	3 days
Early Detection Screen PCR/ NAAT with Syphilis	STXX	(B) (A) 10mls or 2 x 4mls	3 days
FASTest Sexual Health Screening Tests			See page 71
Gardnerella vaginalis by PCR	GVPC	**FCRU/PCR/TPV**	2 days
Gonorrhoea (Culture)	GONN	**CS**‡‡‡	2-3 days
Gonorrhoea (PCR swab)	SGON	**PCR**	2 days
Gonorrhoea (Thin Prep)	TGON	**TPV**	2 days
Gonorrhoea (Urine)	CGON	**FCRU**	2 days
Haemophilus ducreyi by PCR	DUCR	**PCR**	7 days
Hepatitis A Profile	HEPA	(B)	4 hours
Hepatitis B Surface Antigen	AUAG	(B)	4 hours
Hepatitis C Antibodies	HEPC	(B)	4 hours
Herpes Simplex I/II by PCR (Swab)	HERS	**PCR**	5 days
Herpes Simplex I/II by PCR (Urine)	HERD	**FCRU/PCR/TPV**	5 days
HIV 1 & 2/p24Ag	HDUO	(B)	4 hours
HIV/HBV/HCV (Early detection by PCR/NAAT) with Syphilis	STXX	(B) (A) 10mls or 2 x 4mls	3 days
HIV/HBV/HCV Screen by PCR/ NAAT (10 days post exposure)	STDX	(A) 10mls or 2 x 4mls (Vacutainer only)	3 days
HIV Rapid RNA HIV-1 QUALITATIVE	LHIV	(A) (Vacutainer only)	4 hours
HIV Rapid RNA HIV-1 QUANTITATIVE	RHIV	(A) (Vacutainer only)	4 hours
HPV (DNA and reflexed mRNA)	HPVT	**TPV**	3 days
HPV (HR mRNA types 16, 18 + others)	HPVH	**TPV**	3 days
HPV (Individual low & high risk DNA subtypes)	HP20	**TPV/PCR**	3 days
Lymphogranuloma Venerium (LGV)	LGVP	**PCR***[42]	1-2 weeks
Macrolide Resistance Test (Mgen)	MGR	**FCRU/PCR**	1-2 weeks
Mycoplasma genitalium by PCR	MGEN	**FCRU/PCR/TPV**	2 days
Mycoplasma genitalium/Ureaplasma by PCR	MUPC	**FCRU/PCR/TPV**	2 days

* LGV can be added to a positive chlamydia sample using the same swab if requested within 4 days of receipt of result.

Sexual Health

TEST	CODE	SAMPLE REQS	TAT
Rapid Xpert HIV-1 RNA Qualitative – Early Detection from 10 days	LHIV	A (Vacutainer only)	4 hours
Rapid Xpert HIV-1 RNS Viral Load – Rapid Testing for HIV-Positive Patient Prognosis and Response To Antiretroviral Therapy	RHIV	A (Vacutainer only)	4 hours
RPR (VDRL)	RPR	B	2 days
STD1 M/F STD Quad (Urine and Serology)	STD1	B **FCRU**	2 days
STD2 M/F STI Profile Plus (Urine and Serology)	STD2	B **FCRU** (If culture swabs are needed please request separately)	4 days
STD3 Female STD Quad (PCR Swab and Serology)	STD3	B **PCR**	2 days
STD4 Female STI Profile Plus (PCR Swab and Serology)	STD4	B **PCR** (If culture swabs are needed please request separately)	4 days
STD5 Serology only	STD5	B	4 hours
STD6 Serology only without HIV	STD6	B	4 hours
STD8 Vaginitis/BV Profile using Culture & PCR Swab	STD8	**PCR/STM**	3 days
STD9 Symptomatic lesion sample using PCR Swab from lesion & PCR Swab	STD9	2 x **PCR Swab**	7 days
STI Profile: MSM1	MSM1	B **/FCRU/PCR Swab Throat/PCR Swab Rectal**	2 days
STI Profile: MSM2	MSM2	B **/FCRU/PCR Swab Throat/PCR Swab Rectal**	3 days
Syphilis by PCR (chancre)	SYPS	**PCR**	5 days
Syphilis IgG/IgM	SERJ	B	4 hours
TPPA	TPPA	B	2 days
Trichomonas vaginalis by PCR	TVPC	**FCRU/PCR/TPV**	2 days
Ureaplasma urealyticum by PCR	UGEN	**FCRU/PCR/TPV**	2 days
Vaginitis/BV Profile using Culture & PCR Swab	STD8	**PCR/STM**	3 days

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Sexual Health

Chlamydia

Chlamydia is the most common curable STI diagnosed in the UK. Often asymptomatic, anyone who is sexually active is considered to be at increased risk of chlamydia infection. It is the most commonly recognised, screened and treated of all STI's. **Allow 6 weeks before re-testing to avoid picking up the DNA from a previous infection**.

Gonorrhoea

Gonorrhoea is caused by the bacterium *Neisseria gonorrhea*, which multiplies easily in the mucous membranes of the male and female reproductive tract. It can cause serious and permanent health conditions if not treated. Symptoms of gonorrhoea are usually overt in men with white, yellow, or green discharge from the penis. Gonorrhoea can also infect the throat and rectum – individual PCR swabs from **each site** should be taken to screen for gonorrhoea. Resistance to antibiotics is increasing and treatment is now combined oral and injectable antibiotics. **Partners should be treated at the same time with retesting after two weeks to confirm clearance – test of cure is recommended following treatment for gonococcal infections**.

Mycoplasma Genitalium (M.Gen)

M.gen is an important sexually transmitted pathogen detectable only by NAAT. M.gen lacks a cell wall and has limited treatment options. It spontaneously develops resistance to antimicrobials. BASHH recommends treatment with Resistance Guided Therapy – testing for M.gen with macrolide resistance determination. M.gen cannot be cultured for diagnostic testing. M.gen prevalence is higher than GC, and in some populations can be similar to CT. M.gen risk factors are similar to CT and consider testing M.gen in all males with non-GC urethritis and all individuals with signs or symptoms of PID, cervicitis, endometritis, associated infertility, ano-rectal condition or epididymo-orchitis. Partner testing is advised for current partners only. Rectal infections are common, and appear to be an important reservoir for resistance. BASHH guidance – all patients must return for test of cure at 3-5 weeks.

Macrolide Resistance Testing (M.gen)

Prevalence of M.gen in men and women in the general population is 1-2%. *Mycoplasma genitalium* has been implicated as a cause of acute and chronic non-chlamydial non-gonococcal urethritis in males and post coital bleeding, cervicitis, endrometritis and pelvic inflammatory disease in females. It is a sexually transmitted, fastidious microorganism that is extremely difficult to culture – with nucleic acid amplification testing (NAAT urine or swab) being the only method available for routine *M. genitalium* detection. Macrolides are generally considered the first-line treatment for *M. genitalium* infections. However, **resistance to macrolides** seems to be increasing worldwide typically exceeding > 40% in male patients who are detected positive for M.gen at screening.

M.gen can be requested as a single PCR test or with CT/GC, with or without other testing options. Important updates to the UK BASHH *M. genitalium* management guidelines are taking the issue of antimicrobial resistance seriously. The draft guidelines have been posted for consultation and include a grade 1B recommendation to test for antimicrobial resistance, stating the importance of knowing the macrolide resistance status to determine whether azithromycin should be prescribed. The guidelines aim to support laboratories in making a case for increased funding to bring in the necessary testing to manage *M. genitalium* infections and associated antimicrobial resistance.

Ureaplasma

U. Urealyticum and *parvum* are strains of bacteria that can lead to urinary tract infection and pelvic inflammation. Usually asymptomatic, it is part of the normal genital flora of both men and women. It is found in about 70% of sexually active humans. In males with lower sperm quality, ureaplasma infection could lead to a more pronounced decreased in some seminal parameters and compromise sperm motility.

Sexual Health

Trichomoniasis

Trichomoniasis is caused by a tiny parasite called *Trichomonas vaginalis* – and is one of the most common STI's worldwide. Frequency of coinfection with other STI's is well recognised, and notably, infection increases the risk of HIV transmission in both men and women. It is associated with adverse pregnancy outcomes, infertility, and cervical neoplasia. Some women may mistake this infection for a yeast infection or bacterial vaginosis since the symptoms are similar: frothy discharge, strong vaginal odour, pain on intercourse, irritation and itching. Men can get trichomoniasis too, but they don't tend to have symptoms. It seems to be linked to male factor infertility. Partners (male or female) need to be treated to avoid ongoing re-infection. Infected women who are sexually active have a high rate of reinfection, **thus re-screening at 3 month post treatment could be considered**.

Gardnerella vaginalis

'Gardnerella vaginalis is a bacterium rather than a sexually transmitted infection. It is part of the normal vaginal flora but, when the normal balance of bacteria in the vagina is disrupted, it can flourish and overgrow leading to bacterial vaginosis. Does it matter if it not an STI? Yes, because it can be characterised by a fishy smelling, white vaginal discharge, itching, burning, and irritation, and there are some known pregnancy and pelvic inflammatory conditions associated with Gardnerella as well as a higher risk of getting other STI's.

In a patient with signs and symptoms suggestive of bacterial vaginosis detection of Gardnerella vaginalis provides supportive evidence of bacterial vaginosis. It can, however, be detected in asymptomatic individuals and it can also be absent in patients with bacterial vaginosis which has been caused by overgrowth of other similar organisms such as Mobiluncus and Atopobium species. Results should be interpreted in line with patient's clinical symptoms and microscopy.

Herpes/Herpes Simplex Virus I/II

Genital herpes caused by the herpes simplex virus (HSV). The virus lives in the nerves and when active it travels to the surface of the infected area and makes copies of itself – called shedding, because new virus cells can at this time rub off onto another person. The virus travels back down the nerve to a ganglion usually at the base of the spine where it lies dormant for a while. It causes painful blisters on the genitalia and surrounding areas. It can be passed through intimate sexual contact and for this reason is referred to as an STI. Once infected, it remains a chronic long term condition with the virus remaining with recurrent activity with variable frequency. There are two types of herpes simplex virus: Type I and Type 2. Both are highly contagious and can be passed easily from one person to another. There is no cure for genital herpes, the symptoms can usually be controlled by antiviral medication. Although using a condom can reduce the risk of herpes transmission, condoms are not 100% effective since herpes can be spread from skin-to-skin.

Lymphogranuloma venereum (LGV)

LGV is a type of chlamydia bacteria that attacks the lymph nodes. It is seen predominantly in gay and bisexual men, and very rarely seen in the UK in heterosexual men and women.

Nearly all LGV infections seen in the UK in recent years have been in the rectum. Within a few weeks of becoming infected, most people get painful inflammation in the rectum with bleeding, pus, constipation or ulcers, sometimes with fever, rash and groin, armpit or neck swelling. Left untreated, LGV can cause lasting damage to the rectum that may require surgery. LGV in the penis might cause a discharge and pain when urinating, with swollen glands in the groin. LGV in the mouth or throat is rare but can cause swollen glands in the neck.

Investigation for possible LGV symptoms is by PCR swab taken from the rectum and penis. If LGV infection is suspected in female patients, cervical and vaginal PCR swabs should be taken. Samples are first tested for chlamydia and if chlamydia is detected, if LGV is suspected, swabs can be further tested, if requested, for LGV as an additional tests, using the same swab samples. Sexual contact partners should also be checked.

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*FAST*est Test Now
Sexual Health Screening – *ahead of expected time*

FAST SSC
Fast Screen *SHORT*

HIV 1&2/p24 Ag
Syphilis IgM/IgG
FAST Urine CT/GC

TAT 4 HOURS

FSSC

B FCRU

FAST USC
Fast Screen with *URINE*

HIV 1&2/p24 Ag
Hep B sAg
Hep C Abs
Syphilis IgG/IgM
FAST Urine CT/GC

TAT 4 HOURS

FUSC

B FCRU

FAST SSS
Fast Screen *SHORT* with *SWAB*

HIV 1&2/p24 Ag
Syphilis IgM/IgG
FAST Swab CT/GC

TAT 4 HOURS

FSSS

B PCR

FAST SSC
Fast Screen with *SWAB*

HIV 1&2/p24 Ag
Hep B sAg
Hep C Abs
Syphilis IgG/IgM
FAST Swab CT/GC

TAT 4 HOURS

FSWS

B PCR

FAST SINGLE TESTS

		Sample type
FCT	*FAST* Chlamydia Urine	**FCRU**
FGN	*FAST* Gonorrhoea Urine	**FCRU**
FCG	*FAST* CT/GC Urine	**FCRU**
FSCT	*FAST* Chlamydia PCR Swab	**PCR Swab**
FSGN	*FAST* Gonorrhoea PCR Swab	**PCR Swab**
FSCG	*FAST* CT/GC PCR Swab	**PCR Swab**
FTCG	*FAST* CT/GC Throat PCR Swab	**PCR Swab**
FRCG	*FAST* CT/GC Rectal PCR Swab	**PCR Swab**

Key: See page 23 for sample-taking and special handling instructions.

Sexual Health

STI's can be caused by virus, fungus, parasite or bacteria. Anyone who is sexually active may be at risk of acquiring an STI. The risk is higher for those with increased numbers of sexual partners, or who have had sex with someone who has/had many partners, or have had unprotected sex.

STI		INCUBATION PERIOD	SAMPLE SITE
Chlamydia CT	Bacterial	1–3 weeks, up to 6 weeks	Urine Cervix/Vagina Cervix/Vagina
Gonorrhoea GC	Bacterial	2–7 days, up to 1 month	Urine Cervix/Vagina Cervix/Vagina Cervix/Vagina
CT/GC Combined	Bacterial	1–3 weeks, up to 6 weeks	Urine Cervix/Vagina Cervix/Vagina Rectum Throat
Mycoplasma genitalium	Bacterial	Symptoms develop at 1–3 weeks	Urine GU Site Cervix/Vagina
Ureaplasma urealyticum	Bacterial	Symptoms develop at 1–3 weeks	Urine GU Site Cervix/Vagina
Trichomonas vaginalis	Parasitic	4–28 days, many patients are asymptomatic carriers	Urine GU Site Cervix/Vagina
Gardnerella vaginalis	Bacterial	Imbalance of normal flora	Urine GU Site Cervix/Vagina
Bacterial Vaginosis (BV)	Bacterial	Imbalance of normal flora	Cervix/Vagina
Herpes Simplex Viral I/II	Viral	2–14 days, testing is most appropriate for patients with symptomatic lesion(s)	Herpes lesion
Human Papillomavirus	Viral	HPV is the most common sexually transmitted infection – usually asymptomatic	Cervical cells Cells/papilloma from site (throat/penile/anal)
Genital warts	Viral	Weeks/months after exposure	GU Warts
Syphilis/Herpes	Bacterial/ Viral	Whenever active lesions are present	Symptomatic lesion

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Sexual Health

TEST	TEST CODE	SAMPLE TYPE	TAT
Chlamydia	CPCR	**First catch Urine**	2 days
Chlamydia	SPCR	**PCR Swab**	2 days
Chlamydia	TPCR	**Thin Prep Vial**	2 days
Gonorrhoea by PCR	CGON	**First Catch Urine**	2 days
Gonorrhoea by PCR	SGON	**PCR Swab**	2 days
Gonorrhoea by PCR	TGON	**Thin Prep Vial**	2 days
Gonorrhoea by CULTURE	GONN	**Black Charcoal swab**	2-3 days
CT/GC	CCG	**First Catch Urine**	2 days
CT/GC	SCG	**PCR Swab**	2 days
CT/GC	TCG	**Thin Prep Vial**	5 days
CT/GC	RSCG	**PCR Swab**	2 days
CT/GC	TSCG	**PCR Swab**	2 days
Mycoplasma genitalium by PCR	MGEN	**First Catch Urine**	2 days
Mycoplasma genitalium by PCR	MGEN	**PCR Swab**	2 days
Mycoplasma genitalium by PCR	MGEN	**Thin Prep Vial**	2 days
Ureaplasma by PCR	UGEN	**First Catch Urine**	2 days
Ureaplasma by PCR	UGEN	**PCR Swab**	2 days
Ureaplasma by PCR	UGEN	**Thin Prep Vial**	2 days
Trichomonas vaginalis by PCR	TVPC	**First Catch Urine**	2 days
Trichomonas vaginalis by PCR	TVPC	**PCR Swab**	2 days
Trichomonas vaginalis by PCR	TVPC	**Thin Prep Vial**	2 days
Gardnerella vaginalis by PCR	GVPC	**First Catch Urine**	2 days
Gardnerella vaginalis by PCR	GVPC	**PCR Swab**	2 days
Gardnerella vaginalis by PCR	GVPC	**Thin Prep Vial**	2 days
Bacterial Vaginosis (BV) Profile by both MICROSCOPY and PCR	STD8	**Both Microscopy & PCR swab**	3 days
Herpes by PCR	HERS	**PCR Swab**	5 days
Herpes by PCR	HERD	**First Catch Urine**	5 days
PV (DNA and reflexed mRNA)	HPVT	**Thin Prep Vial**	3 days
HPV (Individual low & high risk DNA subtypes)	HP20	**PCR Swab**	3 days
HPV (Individual low & high risk DNA subtypes)	HP20	**Cells / Papilloma**	3 days
PV (DNA and reflexed mRNA)	HPVT	**Thin Prep Vial**	3 days
HPV (Individual low & high risk DNA subtypes)	HP20	**PCR Swab**	3 days
HPV (Individual low & high risk DNA subtypes)	HP20	**Cells / Papilloma**	3 days
Syphilis/Herpes Lesion Profile	STD9	**PCR Swab**	7 days

Key: See page 23 for sample-taking and special handling instructions.

Sexual Health

BLOOD		INCUBATION PERIOD	SAMPLE SITE
Syphilis	Bacterial	9–21 days, but up to 90 days	Blood
Herpes Simplex Virus I/II	Viral	IgG 4–6 weeks after exposure IgM 5–35 days after exposure, after which test IgG	Blood Blood
HIV	Viral	Usually 10–90 days, but up to 180 days	Blood Blood
Hep B	Viral	Usually 45–180 days, average of 60–90 days	Blood Blood
Hep C Ab	Viral	Usually 9–180 days, average of 45–65 days	Blood Blood

EARLY DETECTION PROFILES BY PCR		INCUBATION PERIOD	SAMPLE SITE
7 STIs by PCR		One sample for 7 STI Tests	Urine Cervix Vagina
HIV / HBV / HCV		Early Detection Screen by PCR Multiplex (HIV from 10 days)	Blood

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Sexual Health

TEST	TEST CODE	SAMPLE TYPE	TAT
Syphilis IgG / IgM	SERJ	B	4 hours
Herpes IgG (past infection)	HERP	B	2 days
Herpes IgM (current / recent)	HERM	B	2 days
HIV I&II / p24 antigen (screening from 45 days post exposure (BHIVA))	HDUO	B	4 hours
Hep B surface antigen	AUAG	B	4 hours
Hep C Antibodies	HEPC	B	4 hours

TEST	TEST CODE	SAMPLE TYPE	TAT
Chlamydia **Gonorrhoea** **Mycoplasma genitalium** **Ureaplasma genitalium** **Trichomonas vaginalis** **Gardnerella vaginalis** **Herpes Simplex I/II**	PP12 PP12 PP12	**Thin Prep Vial** or **First Catch Urine** or **PCR Swab**	2 days 2 days 2 days
HIV 1&2 RNA **Hepatitis B (HBV DNA)** **Hepatitis C (HCV RNA)**	STDX	A 10mls or 2 x 4mls (Vacutainer only)	3 days

Sexual Health

STD1 M/F STD QUAD (Urine and Serology)

Serology
HIV 1&2/p24 Antigen
Syphilis IgG/IgM

Urine
Chlamydia
Gonorrhoea

TAT 2 DAYS

STD1

B FCRU

STD2 M/F STI PROFILE PLUS (Urine and Serology)

Serology
HIV 1&2/p24 Antigen
Hep B Surface Antigen
Hep C Abs
Syphilis IgG/IgM

Urine
Chlamydia/Gonorrhoea
Mycoplasma genitalium
Ureaplasma
Trichomonas vaginalis
Gardnerella vaginalis
Herpes Simplex I/II

TAT 4 DAYS

STD2

B FCRU

If culture swabs are needed please request separately

STD3 FEMALE STD QUAD (PCR Swab and Serology)

Serology
HIV 1&2/p24 Antigen
Syphilis IgG/IgM

Vaginal PCR Swab
Chlamydia
Gonorrhoea

TAT 2 DAYS

STD3

B PCR

STD4 FEMALE STI PROFILE PLUS (PCR Swab and Serology)

Serology
HIV 1&2/p24 Antigen
Hep B Surface Antigen
Hep C Abs
Syphilis IgG/IgM

Vaginal PCR Swab
Chlamydia/Gonorrhoea
Mycoplasma genitalium
Ureaplasma
Trichomonas vaginalis
Gardnerella vaginalis
Herpes Simplex I/II

TAT 4 DAYS

STD4

B PCR

If culture swabs are needed please request separately

STD5 SEROLOGY ONLY

HIV 1&2/p24 Antigen
Hepatitis B Surface Antigen
Hep C Abs
Syphilis IgG/IgM

TAT 4 HOURS

STD5

B

STD6 SEROLOGY ONLY WITHOUT HIV

Hepatitis B Surface Antigen
Hep C Abs
Syphilis IgG/IgM

TAT 4 HOURS

STD6

B

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Sexual Health

STD8 VAGINITIS / BV PROFILE USING CULTURE & PCR SWAB

Candida species
Gardnerella vaginalis by PCR
Trichomonas vaginalis by PCR

TAT 3 DAYS

STD8

PCR STM

STD9 SYMPTOMATIC LESION SAMPLE USING PCR SWAB FROM LESION

Syphilis by PCR
Herpes Simplex I/II by PCR
(from single swab)

TAT 7 DAYS

STD9

PCR PCR

HIV / HBV / HCV SCREEN
(HIV1/HIV2/HBV/HCV by PCR/NAAT)

HIV1 and HIV2 (RNA)
Hepatitis B Virus (HBV DNA)
Hepatitis C Virus (HCV RNA)

Samples must be received in the laboratory within 2 days of sample taking

TAT 3 DAYS

STDX

A 10mls or 2 x 4mls (Vacutainer only)

EARLY DETECTION SCREEN WITH SYPHILIS
(HIV1/HIV2/HBV/HCV by PCR/NAAT)

HIV1 and HIV2 (RNA)
Hepatitis B Virus (HBV DNA)
Hepatitis C Virus (HCV RNA)
Syphilis IgG/IgM

Samples must be received in the laboratory within 2 days of sample taking

TAT 3 DAYS

STXX

B A 10mls or 2 x 4mls

CT/GC/TRICHOMONAS/MGEN

Chlamydia
Gonorrhoea
Trichomonas vaginalis
Mycoplasma genitalium

All tests can be requested individually

TAT 2 DAYS

CGTM (Urine) / SGTM (Swab)

FCRU OR PCR Swab

7 STI PROFILE BY PCR (7 TESTS FROM 1 SAMPLE)
(Urine, Swab, Thin Prep or Semen)

Chlamydia trachomatis
N. gonorrhoea
Mycoplasma genitalium
Ureaplasma
Trichomonas vaginalis
Gardnerella vaginalis
Herpes Simplex I/II

All tests can be requested individually

TAT 2 DAYS

PP12

FCRU OR PCR Swab OR TPV

Sexual Health

STI Profile: MSM1

HIV 1&2/p24 Ag
Syphilis IgG/IgM
Urine for CT/GC
Throat Swab CT/GC
Rectal Swab CT/GC

TAT 2 DAYS

MSM1

B FCRU | PCR Swab Throat | PCR Swab Rectal

STI Profile: MSM2

HIV 1&2/p24 Ag
Syphilis IgG/IgM
7 STI by PCR Screen
Throat Swab CT/GC
Rectal Swab CT/GC
Hep B sAg
Hep C Abs

TAT 3 DAYS

MSM2

B FCRU | PCR Swab Throat | PCR Swab Rectal

RAPID XPERT HIV-1

For some patients earlier diagnosis of HIV infection is important. **Xpert HIV-1 Qual** is a qualitative test that provides on-demand molecular testing for early diagnosis (from 10 days).

FOR PATIENT ON TREATMENT FOR HIV

Xpert HIV-1 Viral Load accommodates on demand testing and measurement of blood plasma HIV-1 RNA concentration (HIV viral load/40 copies/ml) which has been established as the standard of care in assessing HIV-positive patient prognosis and response to antiretroviral therapy. Assessment of viral load levels is a strong predictor of the rate of disease progression and, by itself or in combination with CD4 T-cell counts, has great prognostic value.

- Improve Patient Care: Same day results support better clinical decisions
- Increase Efficiency: Rapid results enable earlier adjustments to appropriate therapy
- Strengthen Communities: Quick decisions can help reduce drug resistance

RAPID XPERT HIV-1 RNA QUALITATIVE
EARLY DETECTION FROM 10 DAYS

HIV-1 RNA

Sample must be received in the laboratory within 24 hours of sample taking

TAT 4 HOURS

LHIV

A (Vacutainer only)

RAPID XPERT HIV-1 RNA VIRAL LOAD
RAPID TESTING FOR HIV-POSITIVE PATIENT PROGNOSIS AND RESPONSE TO ANTIRETROVIRAL THERAPY

HIV-1 RNA VIRAL LOAD (40 copies/ml)

Sample must be received in the laboratory within 24 hours of sample taking

TAT 4 HOURS

RHIV

A (Vacutainer only)

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Immunology

TEST	CODE	SAMPLE REQS	TAT
Acute Viral Hepatitis Screen	AHSC	B	4 hours
Adrenal Cortex Antibodies	ACTX	B	2 days
ANCA (Anti-Neutrophil Cytoplasmic Abs)	ANCA	B	2 days
Anti-Actin Antibodies	AAA	B	5 days
Anti-Basal Ganglia Antibodies	ABGA	B	3 weeks
Anti-CCP Antibodies (RF)	CCP	B	2 days
Anti-Liver Cytosol Antibodies	ALCA	B	5 days
Anti-MOG [Myelin Oligodendrocyte Glycoprotein] Antibodies	AMOG	B	3 weeks
Anti-MUSK Antibodies	MUSK	B	2 weeks
Anti-Phosphatidylserine Antibodies	PHTS	B	5 days
Anti-Phospholipase A2 Receptor	AA2R	B	3 weeks
Anti-Ri Antibodies	RIAB	B	3 days
Anti-SLA (Soluble Liver Antigen) Abs	LSA	B	10 days
Antinuclear Antibodies (titre & pattern)	ANAB	B	2 days
Antistaphylolysin Titre (SGOT)	ASTT	B	3 days
Antistreptolysin Titre/ASOT	ASLT	B	2 days
Antisulfatide Antibodies	ASA	B	5 weeks
Aquaporin 4 Antibodies (Neuromyelitis Optica)	AQUA	B	2 weeks
Ascariasis Serology	ASC	B	5 days
Autoantibody Profile I	AUTO	B	2 days
Autoantibody Profile II	ENDO	B	2 days
Avian Precipitins (11 Species)	AVIA	B	5 days
Babesia Antibodies	BABE	B	3 weeks
Beta 2 Glycoprotein 1 Abs	B2GP	B	5 days
Borrelia Antibodies (Lyme Disease) IgG, IgM – see page 90	BORR	B [9,14]	2 days
Borrelia Antibodies (Lyme Disease) IgM – see page 90	BORM	B	2 days
Borrelia Confirmation (Immunoblot) – see page 90	BORC	B [9,14]	10 days
Brucella Serology	BRUC	B [9]	2-3 weeks
C1 Esterase Inhibitor	C1EI	B	5 days
C3 Complement	C3	B	4 hours
C3/C4 Complement	COMP	B	4 hours
C4 Complement	C4	B	4 hours
Calprotectin	CALP	**RF**	5 days
Calprotectin/Elastase Profile	CEP	**RF**	5 days
Cardiolipin Antibodies (IgG+IgM)	ACAB	B	2 days
Cartilage Antibodies	ACA	B	5 days
CCP Antibodies (RF)	CCP	B	2 days
Centromere Autoantibodies	CENT	B	2 days
CH50 (Classical pathway)	CH50	B (Frozen) [4]	4 days
Chagas Disease Serology (S.American Trypanosomiasis) T. Cruzi	CHGA	B [9,14]	10 days

Immunology

	TEST	CODE	SAMPLE REQS	TAT
	Chlamydia Species Specific (MIF) Ab Screen	CHAB	B	2 days
	Chronic Fatigue Syndrome Profile	VIP1	A + B [10]	5 days
	Coeliac Disease – HLA DQ2/DQ8 Genotype	Q2Q8	A [9]	10 days
	Coeliac/Gluten Profile 2	GSA2	A B	10 days
	Coeliac/Gluten Sensitivity Profile	GSA	B	2 days
	Colloid Antigen-2 Antibodies	CA2A	B	2 weeks
	Cotinine (Serum)	COT	B	4 days
	COVID-19 (SARS-CoV-2) Abbott IgG Antibody	GCOV	**SST / Serum** B * (Venous only)	24 hours
	COVID-19 (SARS-CoV-2) Abbott IgM Antibody	MCOV	**SST / Serum** B * (Venous only)	24 hours
NEW	**COVID-19 (SARS-CoV-2) Roche Elecsys Anti-SARS-CoV-2 S (SPIKE)**	SCOV	**SST/Serum** B (Venous/Capillary self-collection*)	24 hours
	COVID-19 (SARS-CoV-2) Roche Elecsys Anti-SARS-CoV-2 Total Antibody	TCOV	**SST / Serum** B * (Venous and Capillary self-collection)	24 hours
NEW	**COVID-19 (SARS-CoV-2) T-SPOT®.COVID**	TCEL	H ***	3 days
	Diphtheria Antibodies	DIPH	B	5 days
	DNA (Double Stranded) Antibodies IgG	DNAA	B	2 days
	DNA (Single Stranded) Antibodies	DNAS	B	5 days
	Echinococcus (Hydatid) Antibodies	EFAT	B [9,14]	5 days
	Ehrlichiosis Antibodies	EHRL	B [9,14]	10 days
	Elastase/Calprotectin Profile	CEP	**RF**	5 days
	Endomysial Antibodies (IgA)	AEAB	B	2 days
	Extractable Nuclear Antibodies (nRNP, Sm, Ro, La, Jo1, Scl70) CENP-B	ENA	B	2 days
	Farmers Lung Precipitins	FARM	B	5 days
	Fasciola Hepatica Antibodies (Liver Fluke)	FASC	B	2 weeks
	Ganglionic Acetylcholine Receptor Antibodies	GACA	B	1 month
	Ganglioside GM1, GD1B, GQ1B Abs	GANG	B	5 days
	Gastric Parietal Autoantibodies	GASP	B	2 days
	Giardia Serology	GIAR	B	5 days
	Gliadin Antibodies (IgG) (deamidated)	AGAB	B	2 days
	Glomerular Basement Membrane Abs	AGBM	B	2 days
	Glutamic Acid Decarboxylase Antibodies (GAD 65)	GAD	B	5 days
	Gluten Allergy Profile	GLUT	A B B	10 days
	Gluten Sensitivity Evaluation	GSA	B	2 days
	Gluten/Coeliac Profile 2	GSA2	A B	10 days
	Granulocyte Immunology	GRIM	A A	2 weeks
	H. pylori Antibodies (IgG)	HBPA	B	2 days
	H. pylori Antigen (Breath)	HBQT	**J**	5 days
	Haemophilus B Influenzae Antibodies	HINF	B	5 days

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Immunology

TEST	CODE	SAMPLE REQS	TAT
Histamine (Blood)	HITT	A (Frozen plasma)	5 days
Histamine (Urine)	HITU	**RU**	5 days
Histamine Releasing Urticaria Test	CURT	B	3 weeks
Histone Antibodies	HISA	B	5 days
Histoplasmosis	HISP	B	10 days
HLA B27	HLAB	A [9]	3 days
Human Anti-Mouse Antibodies	HAMA	B (Frozen)	6 weeks
IgE (Total)	IGE	B	1 day
Immune-Complexes	IMCP	B	5 days
Immunoglobulins (IgG, IgM, IgA)	IMM	B	4 hours
Inner Ear Antigen (Ottoblot)	IEA	B	3 weeks
Insulin Antibodies	INAB	B	5 days
Interferon – Alpha	IFA	B (frozen) [9]	3 weeks
Interferon – Gamma	IFG	A (frozen)	3 weeks
Interleukin 1 Beta	ILB	B (Frozen) [4,7]	1-2 weeks
Interleukin 2	IL2	B (Frozen) [4,7]	1-2 weeks
Interleukin 4	IL4A	B (Frozen) [4,7]	1-2 weeks
Interleukin 6	IL6	B (Frozen) [4,7]	1-2 weeks
Interleukin 8	IL8	B (Frozen) [4,7]	1-2 weeks
Interleukin 10	IL10	B (Frozen) [4,7]	1-2 weeks
Interleukin 28b Genotype	IL28	A	2 weeks
Intrinsic Factor Antibodies	IFAB	B	2 days
Islet Cell Antibodies	ICAB	B	2 days
Legionella Antibodies	LEGO	B	2 days
Legionella Urine Antigen	LEGA	**RU**	1 day
Leptospirosis (Weil's Disease) Abs (IgM)	LEP	B	5 days
Leukotriene E4	LTE4	**CU** (Frozen)	3 weeks
Listeria IgG/IgM Antibody	LIST	B	1 week
Liver Immunoblot	LIVI	B	3 days
Liver Kidney Microsomal Antibodies	LKM	B	2 days
Lupus Anticoagulant and Anticardiolipin Abs	LUPA	B C [4,18]	2 days
Lyme Disease (Borrelia Abs) IgG, IgM	BORR	B [9,14]	2 days
Lyme Disease (Borrelia Abs) IgM	BORM	B	2 days
Meningococcal Abs	MENI	B	2-4 weeks
Mitochondrial Antibodies	AMIT	B	3 days
Mitochondrial Antibodies M2	MAM2	B	2 days
Myasthenia Gravis Evaluation	MGE	B	5 days
Myelin Associated Glycoprotein Antibodies	MAG	B	5 days
Myelin Basic Protein Antibodies	MBPA	B	2 weeks
Myeloperoxidase Antibodies	MPO	B	2 days
Myocardial Antibodies	MYO	B	1 week
Myositis Panel	MYOS	B	3 days
Neuronal Antibody (Hu, Ri, Yo, Cv2, Ma2)	NEUR	B	10 days
NMDA Receptor Antibodies	NMDA	B	3 weeks

Key: See page 23 for sample-taking and special handling instructions.

Immunology

	TEST	CODE	SAMPLE REQS	TAT
	Nucleic Acid Antigen Antibodies	DNA	B	2 days
	Oligoclonal Bands	CSFO	CSF + B	5 days
	Ovarian Autoantibodies	OVAB	B	2 days
	Paragomius Serology	PRGM	B	2 weeks
	Parathyroid Antibodies	PTHA	B	1 week
	Pemphigus/Pemphigoid Autoantibodies	SKAB	B	2 days
	Pertussis (Whooping Cough) Antibodies	PERS	B	5 days
	Pituitary Antibodies	PITU	B [4]	1 month
	Pneumococcal Antibodies – Serotype Specific	PASS	B	5 weeks
	Pneumococcal Antibody Screen	PNEU	B	5 days
	Proteinase 3 Ab	PR3	B	2 days
	Purkinje Cell Antibody (Hu and Yo)	PURK	B	10 days
	Q Fever (C Burnetti) Antibodies	QFEV	B [9]	10 days
	Rheumatoid Factor (Latex Test)	RF	B	1 day
	Rheumatology Profile 1 (Screen)	RH	A B	2 days
	Rheumatology Profile 2 (Connective tissue)	RH2	A A B B	3 days
	Rheumatology Profile 3 (Rheumatoid/Basic)	RH3	A B	2 days
	Rheumatology Profile 4 (Systemic Lupus)	RH4	A B B	2 days
	Rheumatology Profile 5 (Mono Arthritis)	RH5	A A B B	3 days
	Rheumatology Profile 6 (Rheumatoid Plus)	RH6	B	2 days
	Rheumatology Profile 7 (Sjogren's Syndrome)	RH7	B	10 days
	Rickettsial Species Antibody Profile	RICK	B	7 days
NEW	RNA Polymerase Antibodies	RNAP	B	3 days
	RPR (VDRL)	RPR	B	2 days
	Saccharomyces Cerevisiae Antibodies	ASCA	B	2 weeks
	Salivary Duct Antibodies	SAB	B	12 days
	Scleroderma Immunoblot	SCLI	B	3 days
	Sjogren's Syndrome	RH7	B	10 days
	Skin (Pemphigus/Pemphigoid) Autoantibodies	SKAB	B	2 days
	Skin Antibodies by Immunofluorescence	STSK	B	1 month
	Sleeping Sickness Serology (African Trypanosomiasis)	TRYP	B [9]	10 days
	Smooth Muscle Antibodies	ASMO	B	2 days
	Sperm Antibodies (Serum)	ASAB	B	5 days
	Steroid Cell Antibody	SCA	B	2 days
	Striated/Skeletal Muscle Antibody	STRA	B	2 days
	Strongyloides Antibodies	STGA	B	10 days
	Syphilis IgG/IgM	SERJ	B	4 hours
NEW	T-SPOT®.COVID	TCEL	H ***	3 days
	TB Quantiferon®-TB Gold*	TBQ4	Special tubes or H [1]	3 days
	Testicular Autoantibodies	TAB	B	2 days
	Tetanus Antibody	TETA	B	5 days
	Thyroid Abs (incl. Thyroglobulin + Thyroid Peroxidase Abs)	THAB	B	1 day

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Immunology

TEST	CODE	SAMPLE REQS	TAT
Thyroid Peroxidase Antibodies/Anti TPO	TPEX	B	1 day
Tissue Transglutaminase IgA (Coeliac)**	TAA	B	2 days
Tissue Transglutaminase IgG	TAAG	B	5 days
Total Immune Function Evaluation	TIE	A + B [5,10]	7 days
Total Immunoglobulin E	IGE	B	1 day
Toxocara Antibodies (IgG)	TFAT	B [9]	5 days
Toxoplasma Antibodies (IgG+IgM)	TFAM	B [9]	4 hours
Toxoplasma Antibody Full Evaluation (IgM, Dye Test, IgG Avidity)	TDYE	B [9]	10 days
Toxoplasma by PCR	TXAG	A	5 days
TPPA	TPPA	B	2 days
Trichinella Serology	TRIC	B	5 days
Trypanosome (Chagas) Antibodies	CHGA	B [9,14]	10 days
TSH-Receptor Antibodies	TSI	B	4 days
Tularaemia Antibodies	TULA	B [14]	5 days
Urinary Methyl Histamine	UHIT	**RU** (Frozen)	2 weeks
Urticaria Test (Histamine Releasing)	CURT	B	3 weeks
Vascular Endothelial Growth Factor	VEGF	B	14 days
VDRL (RPR)	RPR	B	2 days
Voltage Gated Calcium Channel Antibodies	CCAB	B	3 weeks
Voltage Gated Potassium Channel Antibodies	VPCA	B	3 weeks
Whooping Cough (Pertussis) Antibodies	PERS	B	5 days
Whooping Cough (Pertussis) by PCR	PERP	**Prenasal (posterior nasopharynx) swab**	5 days
Yellow Fever Antibodies	YELL	B [9,14]	10 days
Yersinia Antibodies	YERS	B	4 days
Zika Abs IgM and IgG – Antibody detection from 15 days	ZKAB	B	Up to 14 days
Zika RNA by PCR in Semen	ZIKS	**Semen**	Up to 14 days
Zika RT PCR – Window of detection from 1-14 days from onset of symptoms	ZIKU	**RU**	Up to 14 days
Zika RT PCR – Window of detection from 1-7 days from onset of symptoms	ZIKA	B	Up to 14 days

* Please indicate clearly if samples have / have not been incubated prior to sending to the laboratory. If Lith Hep (green top) tube is used, please request as TBQ4 and ensure sample is received in the laboratory within 16 hours of sample taking.

** If Tissue Transglutaminase (TAA) is regulated and is LOW (<0.2U/ml) total IgA will be reflexed. If total IgA is low (<0.1g/L) deamidated gliadin IgG will be reflexed. If Tissue Transglutaminase (TAA) is HIGH (>10 U/ml), endomysial IgA will be reflexed as confirmatory test.

*** Do not refrigerate samples at any time. Samples must be received by TDL within 24 hours of taking the sample. Please do not send samples to the laboratory on Saturdays. T-SPOT®.COVID test is CE marked

Key: See page 23 for sample-taking and special handling instructions.

Immunology

HLA DQ2/DQ8

TEST	CODE	SAMPLE REQS	TAT
Coeliac Disease – HLA DQ2/DQ8 Genotype	Q2Q8	A [9]	10 days
Coeliac/Gluten Profile 2	GSA2	A B	10 days
Coeliac/Gluten Sensitivity Profile	GSA	B	2 days

GLUTEN SENSITIVITY EVALUATION (COELIAC DISEASE ANTIBODY)

Endomysial IgA
Gliadin deamidated IgG
Total IgA*
Tissue Transglutaminase (IgA)

TAT 2 DAYS

GSA

B

COELIAC DISEASE PROFILE 2

Endomysial IgA
Gliadin deamidated IgG
Total IgA*
Tissue Transglutaminase (IgA)
HLA DQ2/DQ8

TAT 10 DAYS

GSA2

A B

GLUTEN ALLERGY PROFILE

Gluten single IgE Allergen
Endomysial Antibodies IgA
Deamidated Gliadin IgG Antibodies
Tissue Transglutaminase IgA
HLA DQ2/DQ8
Total IgA*

TAT 10 DAYS

GLUT

A B B

* To reduce the risk of missing IgA deficient patients, a Total IgA will be run for all low Tissue Transglutaminase IgA results.

If IgA deficiency is identified, a reflex deaminated Gliadin IgG will be carried out to determine whether the patient is likely to have coeliac disease.

Coeliac pathway:

1 **Initial TTG IgA samples are received and tested**
2 **If TTG IgA is LOW <0.2 U/ml reflex testing for Total IgA will be undertaken**
3 **If Total IgA is LOW <0.1 g/L then reflex testing for Gliadin IgG test will be undertaken**
4 **If TTG IgA is HIGH (>/= 10 U/ml then reflex testing for Endomesial IgA will be undertaken as a confirmatory test.**

Endomysial IgA

- This is no longer available as a stand-alone test. If requested the request will default to TTG IgA.
- However if TTG IgA is positive endomysial IgA will be carried out as a confirmatory test. This only needs to be done once in the patients history.

Endomysial IgG requests

- No longer available as a single test request.

Immunology

Deamidated gliadin IgA requests

- This is no longer available. If requested the request will default to TTG IgA.

Deamidated gliadin IgG requests

- This can be requested as an individual standalone test as well as being incorporated into the coeliac pathway. This may be useful when testing children's samples.

Appropriate clinical comments will be added to results automatically – as follows:

TTG IgA result U/ml	Total IgA result for new assay g/L	Deamidated gliadin IgG result U/ml	Comment
0.2 to 10	**N/A**	**N/A**	**Coeliac disease unlikely (please note that if the patient has no dietary gluten results may appear false negative)**
>/= 10	**N/A**	**N/A**	**Suggestive of coeliac disease**
<0.2	**>/= 0.1**	**N/A**	**Coeliac disease unlikely (please note that if the patient has no dietary gluten, results may appear false negative)**
<0.2	**<0.1**	**>/=10**	**Consistent with coeliac disease in a patient with selective IgA deficiency**
<0.2	**<0.1**	**< 7**	**Coeliac disease unlikely (please note that if the patient has no dietary gluten, results may appear false negative)**
<0.2	**<0.1**	**7-10**	**Result equivocal suggest referral to a gastroenterologist for consideration of duodenal biopsy**

Coeliac Disease (CD) is an immune-mediated disease of the intestines that is triggered by the ingestion of gluten in genetically susceptible individuals. Gluten is the major protein component of wheat, rye, and barley. Genetic predisposition does play a key role in CD, and it is well known that CD is strongly associated with specific HLA class II genes known as HLA-DQ2 and HLA-DQ8. Approximately 95% of CD patients express HLA-DQ2, and the remaining patients are usually HLA-DQ8 positive. The negative predictive value for both tests is higher than 99%. However, the HLA-DQ2 allele is common and is carried by approximately 30% of Caucasian individuals. Thus, HLA-DQ2 or HLA-DQ8 is necessary for disease development but is not sufficient for disease development; its estimated risk effect is only 36-53%.

Note: History taking is important if a patient has been on a gluten-free diet for 6-12 months, approximately 80% will lose their antibody response. After 5 years this increases to >90%.

Immunology

RHEUMATOLOGY PROFILE 1

FBC
ESR
Uric Acid
RF
Anti CCP Antibodies (RF)
C Reactive Protein

TAT 2 DAYS

RH

A B

RHEUMATOLOGY PROFILE 2
General screen for Connective Tissue Disorders

FBC
ESR
Uric Acid
Antinuclear Autoantibodies
Anti-dsDNA IgG
Antibodies to Extractable Nuclear Antigens (ENA)
- *Anti nRNP*
- *Anti Sm*
- *Anti Ro (SS-A)*
- *Anti La (SS-B)*
- *Anti Jo-1*
- *Anti Scl 70*
- *Anti CENP*

RF
Anti CCP Antibodies
HLA B27
C Reactive Protein
CENP-B

TAT 3 DAYS

RH2

A A B B

RHEUMATOLOGY PROFILE 3
Rheumatoid Disease

FBC
ESR
Uric Acid
RF
Anti CCP Antibodies (RF)
Antinuclear Autoantibodies
C Reactive Protein

TAT 2 DAYS

RH3

A B

RHEUMATOLOGY PROFILE 4
Systematic Lupus Erythematosus

FBC
ESR
Antinuclear Autoantibodies
Anti-dsDNA IgG
Antibodies to Extractable Nuclear Antigens (ENA)
- *Anti nRNP*
- *Anti Sm*
- *Anti Ro (SS-A)*
- *Anti La (SS-B)*
- *Anti Jo-1*
- *Anti Scl 70*
- *Anti CENP*

RF
Anti CCP Antibodies
Anti Cardiolipin Autoantibodies
Complement 3,4
C Reactive Protein

TAT 2 DAYS

RH4

A B B

RHEUMATOLOGY PROFILE 5
Mono Arthritis

FBC
ESR
Uric Acid
RF
Anti CCP Antibodies (RF)
Antinuclear Autoantibodies
C Reactive Protein
HLA B27

TAT 3 DAYS

RH5

A A B B

RHEUMATOLOGY PROFILE 6
Rheumatoid Factor

RF
Anti CCP Antibodies (RF)
C Reactive Protein

TAT 2 DAYS

RH6

B

RHEUMATOLOGY PROFILE 7
Sjogren's Syndrome

Anti RO (SS-A)
Anti La (SS-B)
Salivary Antibodies (SAB)
C Reactive Protein

TAT 10 DAYS

RH7

B

Patients with Irritable Bowel Syndrome (IBS) may benefit by testing for **Calprotectin**, see page 79 for details.

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Immunology

AUTOANTIBODY PROFILE I

Thyroid Peroxidase Antibodies
Antinuclear Antibodies
Mitochondrial Antibodies
Smooth Muscle Antibodies
Gastric Parietal Cell Antibodies
LKM

TAT 2 DAYS

AUTO

B

AUTOANTIBODY PROFILE II

Thyroid Peroxidase Antibodies
Islet Cell Antibodies
Adrenal Antibodies
Gastric Parietal Cell Antibodies
Gonadal (Ovarian/Testicular) abs

TAT 2 DAYS

ENDO

B

CHLAMYDIA SPECIES SPECIFIC (MIF) ANTIBODY SCREEN

Chlamydia trachomatis (serovar A-K & L1-L3)
Chlamydia pneumoniae
Chlamydia psittaci

TAT 2 DAYS

CHAB

B

FAECAL CALPROTECTIN ELASTASE PROFILE

Faecal Calprotectin
Faecal Elastase

TAT 5 DAYS

CEP

RF

CHRONIC FATIGUE SYNDROME PROFILE

Epstein-Barr Virus Antibody Profile
Lymphocyte Subsets (CD4/CD8)*
CRP
Vitamin D (25 OH)

TAT 5 DAYS

VIP1

A + B [10]

Tropical and travel-related immunology

TEST	CODE	SAMPLE REQS	TAT
Amoebic (E. histolytica) Antibodies	AFAT	B	2 days
Amoebic (E. histolytica) PCR	AMAG	**RF**	2 days
Bilharzia (Schistosome) Antibody Screen	BILH	B [14]	10 days
Bilharzia (Urine)	USCH	Mid-morning terminal urine following exercise [14]	1-2 days
Borrelia Antibodies (Lyme Disease) IgG, IgM – see page 90	BORR	B [9,14]	2 days
Borrelia Antibodies (Lyme Disease) IgM – see page 90	BORM	B	2 days
Borrelia Confirmation (Immunoblot) – see page 90	BORC	B [9,14]	10 days
Cryptosporidium Detection by PCR	CRPA	**RF**	2 days
Dengue Virus Serology	DENG	B [9,14]	5 days
DVT/Pre-travel Screen	DVT1	A A B [9]	5 days
Echinococcus (Hydatid) Antibodies	EFAT	B [9,14]	5 days
Enteric Organism Rapid Detection	EORD	**RF**	2 days
Filaria (Lymphatic and Non-Lymphatic) Antibodies	FIFA	B [9,14]	10 days
Insect/Worm/Ova/Cysts	FLEA	Send Specimen [9,14]	5 days
Leishmania Antibodies	LEIS	B	5 days
Malarial Antibodies (Pl. falciparum)	MALA	B [9,14]	5 days
Malarial Antibodies (species specific)	MALS	B [9,14]	10 days
Post-Travel Screen 1 (Prior to 6 weeks)	PTS	A A B G [14]	10 days
Post-Travel Screen 2 (Prior to 6 weeks)	PTS2	A A B B B G [14]	10 days
Pre-Travel Screen (DVT)	DVT1	A A B [9]	5 days
Rickettsial Species Antibody Profile	RICK	B	7 days
Schistosome (Bilharzia) Antibodies	BILH	B [14]	10 days
Toxoplasma Antibodies (IgG+IgM)	TFAM	B [9]	4 hours
Tropical Screen (from 6 weeks post-travel)	TROP	B B [9,14]	10 days
Zika Abs IgM and IgG – Antibody detection from 15 days	ZKAB	B	Up to 14 days
Zika RNA by PCR in Semen	ZIKS	**Semen**	Up to 14 days
Zika RT PCR – Window of detection from 1-14 days from onset of symptoms	ZIKU	**RU**	Up to 14 days
Zika RT PCR – Window of detection from 1-7 days from onset of symptoms	ZIKA	B	Up to 14 days

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Tropical and travel-related immunology

TROPICAL SCREEN
(from 6 weeks post-travel)

Amoebic Antibodies
Schistosomal Antibodies (Bilharzia)
Echinococcus Antibodies (Hydatid)
Leishmania Antibodies
Malarial Antibodies (IFA)
Toxoplasma Antibodies IgG
Toxoplasma Antibodies IgM

TAT 10 DAYS

TROP

B B [9,14]

POST-TRAVEL SCREEN 1
(Prior to 6 weeks)

Haematology Profile
Biochemistry Profile
Schistosome Abs
Malarial Abs

TAT 10 DAYS

PTS

A A B G [14]

POST-TRAVEL SCREEN 2
(Prior to 6 weeks)

Haematology Profile
Biochemistry Profile
Schistosome Abs
Malarial Abs
Hep A IgM Abs
Hep B sAg
Hep C Abs
HIV Duo

TAT 10 DAYS

PTS2

A A B B B G [14]

DVT/PRE-TRAVEL SCREEN

FBC
Factor II Prothrombin Gene
Factor V Leiden
Anticardiolipin Antibodies

TAT 5 DAYS

DVT1

A A B [9]

ENTERIC ORGANISM RAPID DETECTION

Detection of Bacterial, Viral and Parasitic Infection by Multiplex Real-Time PCR

Bacteria and Bacterial Toxins

C. difficile Toxin A/B gene, Campylobacter spp., Enteroaggregative E.coli (EAEC), Enteroinvasive E.coli (EIEC)/Shigella, Enterotoxigenic E.coli (ETEC), Enteropathogenic E.coli (EPEC), Plesiomonas shigelloides, Salmonella, Shiga-toxin producing E.coli (STEC) stx1/stx2, Shiga-toxin producing E.coli (STEC) O157:H7, Vibrio cholerae, Vibrio parahaemolyticus, Vibrio vulnificus, Yersinia enterocolitica

Viruses

Adenovirus 40/41, Astrovirus, Norovirus GI, Norovirus GII, Rotavirus A, Sapovirus (I, II, IV, V)

Parasites

Cyclospora cayetanensis, Cryptosporidium spp., Entamoeba histolytica, Gardia lamblia

This does NOT include stool for m/c/s – this needs to be requested as a separate test. Please provide two samples if this is required.

TAT 2 DAYS

EORD

RF

Tropical and travel-related immunology

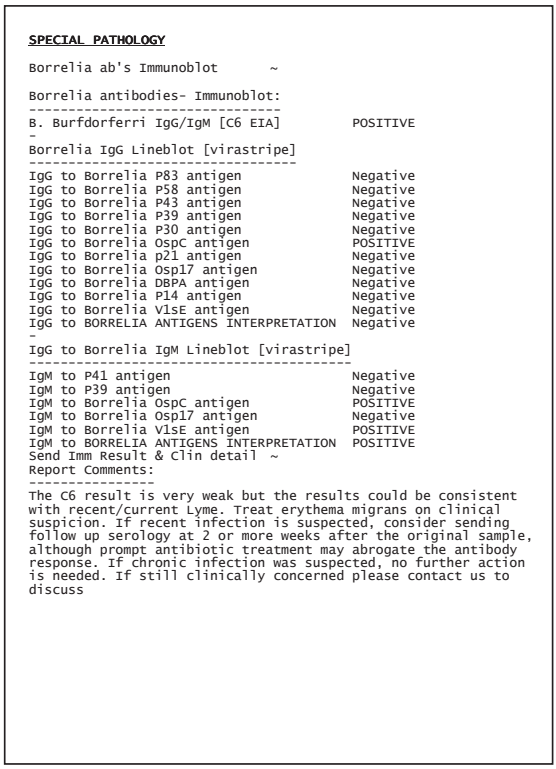
Borrelia Antibodies (Lyme Disease) *Borrelia burgdorferi*

Presence of antibodies confirms infection with the Lyme Disease spiral bacterium (spirochaete) known as *Borrelia burgdorferi* by a bite from an infected tick. Patients bitten by an infected tick which is not removed within a day or so may develop Lyme disease. An expanding rash would usually appear at the site of the bite within 3 to 30 days in a large proportion of those infected. The rash spreads and often develops a 'bulls-eye' appearance. Many also develop flu-like symptoms with aching joints and muscles. The disease can later affect the nervous system, joints and other body systems.

Borrelia Antibodies IgM (BORM): detectable after 2-3 weeks increasing up to 6 weeks.

Borrelia Antibodies IgG/IgM (BORR): detectable after several weeks increasing to maximum at 4-6 months and may remain at high levels for many years.

Borrelia Confirmation (Immunoblot) (BORC):
The ELISA test is sensitive but has a well-documented high false positive rate giving positive results in cases of glandular fever, rheumatoid arthritis and other autoimmune conditions. If the ELISA is positive testing by Immunoblot confirms a diagnosis by Lyme disease. IgM and IgG antibodies are tested separately. It is essential that details of the IgG +IgM Elisa are provided for this test.



SPECIAL PATHOLOGY

Borrelia ab's Immunoblot ~

Borrelia antibodies- Immunoblot:

B. Burfdorferri IgG/IgM [C6 EIA]	POSITIVE

Borrelia IgG Lineblot [virastripe]

IgG to Borrelia P83 antigen	Negative
IgG to Borrelia P58 antigen	Negative
IgG to Borrelia P43 antigen	Negative
IgG to Borrelia P39 antigen	Negative
IgG to Borrelia P30 antigen	Negative
IgG to Borrelia OspC antigen	POSITIVE
IgG to Borrelia p21 antigen	Negative
IgG to Borrelia Osp17 antigen	Negative
IgG to Borrelia DBPA antigen	Negative
IgG to Borrelia P14 antigen	Negative
IgG to Borrelia VlsE antigen	Negative
IgG to BORRELIA ANTIGENS INTERPRETATION	Negative

IgG to Borrelia IgM Lineblot [virastripe]

IgM to P41 antigen	Negative
IgM to P39 antigen	Negative
IgM to Borrelia OspC antigen	POSITIVE
IgM to Borrelia Osp17 antigen	Negative
IgM to Borrelia VlsE antigen	POSITIVE
IgM to BORRELIA ANTIGENS INTERPRETATION	POSITIVE

Send Imm Result & Clin detail ~
Report Comments:
The C6 result is very weak but the results could be consistent with recent/current Lyme. Treat erythema migrans on clinical suspicion. If recent infection is suspected, consider sending follow up serology at 2 or more weeks after the original sample, although prompt antibiotic treatment may abrogate the antibody response. If chronic infection was suspected, no further action is needed. If still clinically concerned please contact us to discuss

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Virology

IMMUNE STATUS

TEST	CODE	SAMPLE REQS	TAT
Hepatitis A Immunity (IgG/IgM)	HAIM	B	4 hours
Hepatitis B Immunity	HBIM	B	4 hours
Measles Antibodies (IgG) Immunity	MEAS	B	1 day
Measles Antibodies (IgM)	MEAM	B [9]	2 days
Measles, Mumps, Rubella (MMR)	MMR	B	1 day
Mumps Antibodies (IgG)	MUMP	B	1 day
Mumps Antibodies (IgM)	MUMM	B	1 day
Pertussis (Whooping Cough) Antibodies	PERS	B	5 days
Pneumococcal Antibody Screen	PNEU	B	5 days
Polio Virus 1, 2, 3 Antibodies	POLO	B [9]	15 days
Rabies Antibody	RABI	B	10 days
Rubella Antibody (IgG)	RUBE	B	4 hours
Rubella Antibody (IgM)	RUBM	B	4 hours
Rubella PCR	RUBP	A / **Amniotic Fluid**	5 days
Tetanus Antibody	TETA	B	5 days
Varicella Zoster Antibodies (IgG)	VZOS	B	1 day
Varicella Zoster Antibodies (IgM)	VZOM	B	1 day

Hepatitis B Immunity/Vaccination

Anti HBs	
less than 10 mIU/ml	Non-immune to Hepatitis B
10–50 mIU/ml	borderline – Booster indicated
50–100 mIU/ml	low level immunity – Booster suggested
100 and over	Immune to Hepatitis B

NEEDLE STICK INJURY PROFILE

(Donor – Not recipient)
Hep B sAg
Hep C Abs
HIV 1+2 Abs/p24 Antigen
Serum saved for 2 years

TAT 4 HOURS

NSI

B B

HEPATITIS VIRAL LOAD SAMPLE INSTRUCTIONS

Whole blood can be stored at 2°C to 30°C and must be centrifuged within 24 hours of specimen collection. Separate the plasma or serum from the pelleted red blood cells following the manufacturer's instructions for the tube used. Plasma or serum can be tested on the Panther system in the primary tube or transferred to a secondary Aptima Specimen Aliquot Tube (SAT) for testing on the Panther system. If not tested immediately, plasma and serum can be stored in accordance with the specifications below. If transferred to the SAT, plasma may be frozen at -20°C or -70°C, and serum may be frozen at -20°C. Do not freeze specimens in EDTA, ACD, or serum primary collection tubes.

After centrifugation: In the primary collection tube at 2°C to 8°C for up to 3 days
In the Aliquoted Tubes: at 2°C to 8°C for up to 5 days
In the Aliquoted Tubes: at -20°C or -70°C for up to 90 days

Virology

HEPATITIS TESTING

TEST	CODE	SAMPLE REQS	TAT
Hepatitis (Acute) Screen	AHSC	B	4 hours
Hepatitis A (IgM)	HAVM	B	4 hours
Hepatitis A Immunity (IgG/IgM)	HAIM	B	4 hours
Hepatitis A Profile	HEPA	B	4 hours
Hepatitis A RNA by PCR	HAVR	A or B	3 weeks
Hepatitis A, B & C Profile	ABC	B	4 hours
Hepatitis B (PCR) Genotype	BGEN	A	7 days
Hepatitis B 'e' Antigen and Antibody	HEPE	B	4 hours
Hepatitis B Core Antibody – IgM	HBCM	B	4 hours
Hepatitis B Core Antibody – Total	HBC	B	4 hours
Hepatitis B DNA (Viral load) – see page 91	DNAB	A	5 days
Hepatitis B Immunity	HBIM	B	4 hours
Hepatitis B Profile	HEPB	B	4 hours
Hepatitis B Resistant Mutation	HBRM	A or B	7 days
Hepatitis B Surface Antigen	AUAG	B	4 hours
Hepatitis C Abs Confirmation (RIBA)	RIBA	B	5 days
Hepatitis C Antibodies	HEPC	B	4 hours
Hepatitis C Antigen (Early detection)	HCAG	B	4 hours
Hepatitis C Genotype	CGEN	A	5 days
Hepatitis C Quantification (Viral Load) – see page 91	QPCR	A or B	5 days
Hepatitis Delta Antibody	HEPD	B	5 days
Hepatitis Delta Antigen	HDAG	B	5 days
Hepatitis Delta RNA	DRNA	A (Frozen plasma)	5 days
Hepatitis E (PCR)	EHEP	A	2 weeks
Hepatitis E IgG/IgM	HBE	B	5 days
Hepatitis G (PCR)	HEPG	A (Frozen plasma)	2 weeks

HEPATITIS B PROFILE

Hep B Surface Antigen
Hep B Surface Antibodies
Hep B Core IgG/IgM

TAT 4 HOURS

HEPB

B

ACUTE VIRAL HEPATITIS SCREEN

Hepatitis A IgM Abs
Hepatitis B Surface Antigen
Hepatitis C Abs

TAT 4 HOURS

AHSC

B

HEPATITIS A, B & C PROFILE

Hepatitis A Profile
Hepatitis B Profile
Hepatitis C Abs
LFT's

TAT 4 HOURS

ABC

B

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Virology

All virology samples are processed as per manufacturers sample requirements and guidelines.

Hepatitis virus is named in order of their discovery A, B, C, D, E and G.

Hepatitis A
Hepatitis A is spread through food and water that have been contaminated with the virus derived from human faeces and urine. Hepatitis A is an acute infection, not a chronic form of the disease.

HBV Assays

Hepatitis B surface antigen (HBsAg) (AUAG)
A protein on the surface of HBV; it can be detected in high levels in serum during acute or chronic HBV infection. The presence of HBsAg indicates that the person is infectious. The body normally produces antibodies to HBsAg as part of the normal immune response to infection. HBsAg is the antigen used to make Hepatitis B vaccine.

Hepatitis B surface antibody (anti-HBs) (HBIM)
The presence of anti-HBs is generally interpreted as indicating recovery and immunity from HBV infection. Anti-HBs also develops in a person who has been successfully vaccinated against Hepatitis B.

Total Hepatitis B core antibody (anti-HBc) (HBC)
Appears at the onset of symptoms in acute Hepatitis B and persists for life. The presence of anti-HBc indicates previous or ongoing infection with HBV in an undefined time frame.

IgM antibody to Hepatitis B core antigen (IgM anti-HBc) (HBCM)
Positivity indicates recent infection with HBV (≤6 months). Its presence indicates acute infection.

Hepatitis B e antigen and antibody (HEPE)
Hepatitis B e antigen (HbeAg): A secreted product of the nucleocapsid gene of HBV that is found in serum during acute and chronic Hepatitis B. Its presence indicates that the virus is replicating and the infected person has high levels of HBV.

Hepatitis B e antibody (HBeAb or anti-HBe): Produced by the immune system temporarily during acute HBV infection or consistently during or after a burst in viral replication. Spontaneous conversion from e antigen to e antibody (a change known as seroconversion) is a predictor of long-term clearance of HBV in patients undergoing antiviral therapy and indicates lower levels of HBV.

HBV Viral Load (DNAB)
This assay measures the concentration of Hepatitis B viral DNA in patient serum. The test enables the viral load at the beginning of treatment to be established and, thereafter, monitored to indicate treatment success.

HBV Genotyping (BGEN)
Identifies the hepatitis B genotype (A to H) in a patient's serum/plasma. This is critical for determining treatment and monitoring response.

HBV Drug Resistance Detection (HBRM)
Detects hepatitis B virus wild-type and drug-induced mutations, associated with lamivudine, entecavir and tenofovir.

HCV Assays

HCV Antibody (HEPC)
The test indicates exposure to virus but does not necessarily signify current infection. The HCV antibody test may therefore be used to screen patients for possible HCV infection to detect the presence of antibodies to the virus, indicating exposure to HCV. This test cannot tell if the viral infection is active, only that you were exposed to the virus in the past.

HCV Viral Load (QPCR)
Measures the concentration of hepatitis C viral RNA in patient serum. This state-of-the-art assay enables the viral load at the beginning of treatment to be established and, thereafter, monitored to indicate treatment success.

HCV Genotype for Treatment (CGEN)
Determines the HCV genotype in a patient's serum. The result is presented as being of either Genotype [1, 5, 6], [4] or [2, 3]. This grouping reflects required treatment duration of the different genotypes.

HCV Drug Resistance
Detects hepatitis C wild-type or drug-induced mutations associated with resistance to HCV drugs including NS5A inhibitors, NS5B inhibitors or NS3 inhibitors.

Key: See page 23 for sample-taking and special handling instructions.

Hepatitis B Surface Antigen

HEPATITIS B

- **Transmission:** Sexual, parenteral, perinatal, direct contact between individuals.
- **Clinical Signs:** Asymptomatic in 90% of cases.
- **Cure:** 95% of cases (adults).
- **Complications:** Cirrhosis and hepatocellular carcinoma.
- **Development of chronic form:** Yes (5% of adult cases).
- **Prevention:** Vaccination ++++; specific IgG.
- **Main Marker:** HBS Ag, anti HBc IgM, total anti HBc Ab, Anti-HBs Ab, HBe Ag, Anti-HBe Ab, HBV DNA.

Not detected

Weakly Reactive or Positive

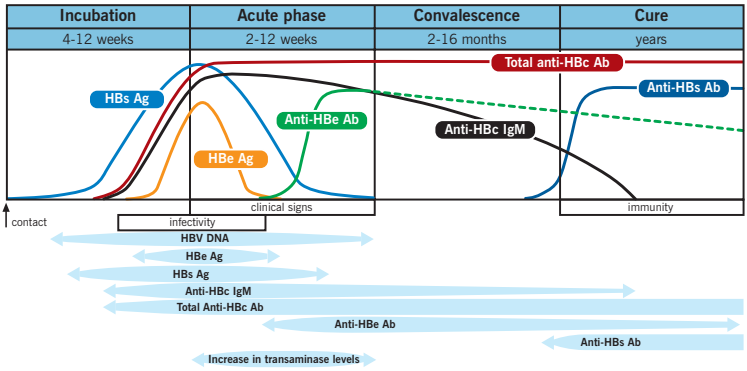
Proceed to Full Hep B Profile (undertaken by TDL as routine reflex testing to identify active information)

Not detected
HepB e Antigen
HepB core Specific IgM

Positive
HepB e Antigen
HepB core Specific IgM

HepB DNA Quantitative (reports viral load)

20 – 4656 IU/ml	low viraemia
4656 – 4.4 million IU/ml	moderate viraemia
> 4.4 million IU/ml	high viraemia



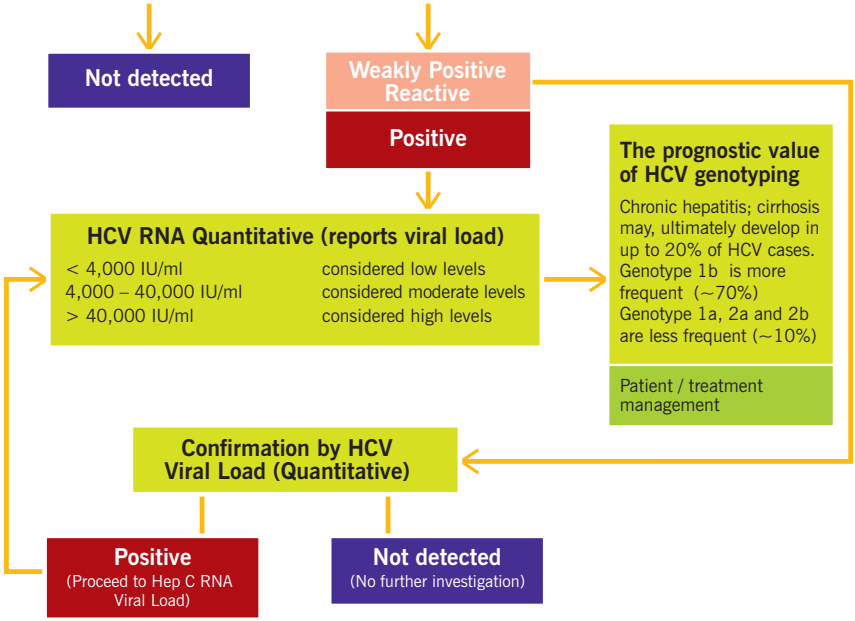
Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

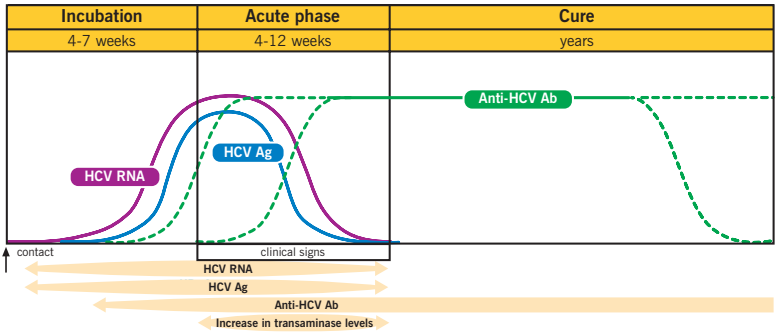
Virology

Hepatitis C Antibodies

HEPATITIS C

- **Transmission:** Parenteral, nosocomial, sexual.
- **Clinical Signs:** Asymptomatic in 90% of cases.
- **Cure:** 95% of cases (adults).
- **Complications:** Cirrhosis and hepatocellular carcinoma.
- **Development of chronic form:** Yes (80% of adult cases).
- **Prevention:** Hygiene, no vaccination.
- **Main Marker:** Anti HCV Ab, HCV RNA.





Key: See page 23 for sample-taking and special handling instructions.

Virology

HIV TESTING

TEST	CODE	SAMPLE REQS	TAT
HIV-1 Proviral DNA	HIVP	A Whole blood	7 days
HIV Confirmation of Positive Screens (Using 3 methodologies)	HIVC	B	1 day
HIV/HBV/HCV Screen by PCR/NAAT (10 days post exposure)	STDX	A 10mls or 2 x 4mls (Vacutainer only)	3 days
HIV Rapid RNA HIV-1 QUALITATIVE	LHIV	A (Vacutainer only)	4 hours
HIV Rapid RNA HIV-1 QUANTITATIVE	RHIV	A (Vacutainer only)	4 hours
HIV Screening: HIV1 & 2 Abs/p24 Ag (4th Gen)	HDUO	B	4 hours
HTLV 1 & 2 Abs. (Human T Lymphotropic Virus Type I-II)	HTLV	B	8 hours
HTLV by PCR	HTLP	A Whole blood	21 days

TDL TINY™ SELF-COLLECTION HIV TESTS
(please refer to page 150 for information about self-collection tests)

TEST	CODE	SAMPLE REQS	TAT
4th Generation HIV1 & 2 Abs/p24 Ag (45 days post-contact)*	THIV	B Tiny™	4 hours

*Reactive 4th Gen HIV Results require confirmation with a follow up venous blood sample.

HIV POSITIVE PATIENT MONITORING

TEST	CODE	SAMPLE REQS	TAT
CD3/CD4/CD8	LYSS	A [10]	1 day
HIV Rapid RNA HIV-1 QUANTITATIVE	RHIV	A (Vacutainer only)	4 hours
HIV Therapeutic Drug Monitoring	TDM	J	21 days
HIV-1 RNA Viral Load by PCR	HIV1	A A (2 x 6ml whole blood)	3 days
HIV-2 RNA by PCR	HIV2	A	21 days

HIV-1 GENOTYPIC RESISTANCE TESTING

TEST	CODE	SAMPLE REQS	TAT
HIV-1 Genotypic Resistance (Integrase)	INTE	A A (2 x 6ml whole blood)	21 days
HIV-1 Genotypic Resistance (RT & Protease)	HIVD	A A (2 x 6ml whole blood)	21 days
HIV-1 Tropism	TRPM	A A (2 x 6ml whole blood)	28 days
HLA B*57:01	HL57	A [9]	10 days

HLA-B*57:01 should be tested before starting patients on an Abacavir (ABC) containing regimen to reduce the risk of hypersensitivity reaction. HLA-B*57:01-positive patients should not be prescribed ABC and a positive status should be recorded as an ABC allergy in the patient's medical record.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Virology

RAPID XPERT HIV-1 RNA QUALITATIVE
EARLY DETECTION FROM 10 DAYS

HIV-1 RNA

Sample must be received in the laboratory within 24 hours of sample taking

TAT 4 HOURS

LHIV

A (Vacutainer only)

RAPID XPERT HIV-1 RNA VIRAL LOAD
RAPID TESTING FOR HIV-POSITIVE PATIENT PROGNOSIS AND RESPONSE TO ANTIRETROVIRAL THERAPY

HIV-1 RNA VIRAL LOAD (40 copies/ml)

Sample must be received in the laboratory within 24 hours of sample taking

TAT 4 HOURS

RHIV

A (Vacutainer only)

HIV / HBV / HCV SCREEN
(SIMULTANEOUS TESTING FOR HIV1/HIV2/HBV/HCV BY PCR/NAAT)

Positive findings will be reflexed for individual qualitative confirmatory testing using the Roche Cobas Ampliscreen

HIV1 and HIV2 (RNA)
Hepatitis B Virus (HBV DNA)
Hepatitis C Virus (HCV RNA)

Samples must be received in the laboratory within 2 days of sample taking

TAT 3 DAYS

STDX

A 10mls or 2 x 4mls (Vacutainer only)

Virology

TEST	CODE	SAMPLE REQS	TAT
Adenovirus by PCR	ADV	A / **PCR** / **VS** / **SC**	7 days
Arbovirus Antibodies/Abs	ARBO	B [9,14]	3 weeks
Atypical Pneumonia Screen	APS	B	2 days
Bancroftia/Oncerciasis/Filarial Antibodies	TFIF	B [14]	2 weeks
BK Polyoma Virus by PCR	BKPV	A / B **/RU**	5 days
Cat Scratch Fever (Bartonella IgG+IgM)	CAT	B	5 days
CD3/CD4/CD8	LYSS	A [10]	1 day
Chikungunya Virus Abs	CHIK	B [9,14]	10 days
NEW **COVID-19 (SARS-CoV-2) Rapid RNA Sequencing** – Contact Lisa Levett for test requirements: Lisa.Levett@tdlpathology.com	COSQ	**RNA** or **PCR swab** [43]	48 hours
COVID-19 (SARS-CoV-2) RNA by PCR	NCOV	**PCR Swab** (nasal/ pharyngeal)	24 hours
COVID-19 / FLU / RSV Screen	FLU4	**PCR** nasopharyngeal	2 days
Coxsackie Antibodies (IgM)	COXM	B	10 days
CSF Screen by PCR	VPCR	**CSF**	2 days
Cytomegalovirus (CMV-DNA) Amnio	CMVD	**AF**	5 days
Cytomegalovirus (IgG/IgM) Antibodies	CMV	B	4 hours
Cytomegalovirus (PCR) Semen	SCVM	**Semen**	7 days
Cytomegalovirus (PCR) Urine	CMVU	**RU**	5 days
Cytomegalovirus Avidity	CMAV	B	10 days
Cytomegalovirus DNA (PCR)	CMVP	A	5 days
Cytomegalovirus Resistance	CMVR	A A (2 x 6mls)	21 days
Dengue Fever PCR	DPCR	A or B [9,14]	2 weeks
Epstein-Barr Virus Antibodies IgG/IgM	EBVA	A or B	2 days
Epstein-Barr Virus PCR	EBVQ	A	5 days
Hantavirus Serology	HANV	B [9]	10 days
Herpes Simplex I/II Antibody Profile (IgG)	HERP	B	2 days
Herpes Simplex I/II by PCR (Swab)	HERS	**PCR**	5 days
Herpes Simplex I/II by PCR (Urine)	HERD	**FCRU** / **PCR** / **TPV**	5 days
Herpes Simplex I/II IgM	HERM	B	2 days
HIV/HBV/HCV Screen by PCR/NAAT (10 days post exposure)	STDX	A 10mls or 2 x 4mls (Vacutainer only)	3 days
Human Herpes Virus – 6 by PCR	HHV6	A	5 days
Human Herpes Virus – 8 (IgG)	HHV8	B	10 days
Human Herpes Virus – 8 by PCR	HV8D	A	5 days
Human Parvovirus B19 – DNA	PCRP	A	2 weeks
JC Polyoma Virus by PCR	JCPV	A / B **/CSF**	5 days
Measles Antibodies (IgG) Immunity	MEAS	B	1 day
Measles Antibodies (IgM)	MEAM	B [9]	2 days
Measles PCR	MEAP	**Buccal swab**	48 hours
MERS Coronavirus Test	MERS	**J**	1 day

* Contact the laboratory for patient self-collection sample kits.

** CE marked IVD capillary kits must be used for self-collection samples and can be ordered through TDL Supplies.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Virology

TEST	CODE	SAMPLE REQS	TAT
Mumps Antibodies (IgM)	MUMM	B	1 day
Mycoplasma species – DNA	MPCR	A	5 days
Needle Stick Injury Profile	NSI	B B	4 hours
Neurological Viral Screen	NVIR	B B	2 days
Parvovirus Antibodies (IgM)	PARV	B	2 days
Parvovirus IgG Antibodies	PARG	B	2 days
Parvovirus IgG/IgM Abs	PARP	B	2 days
Pneumonia (Atypical) Screen	APS	B	2 days
Rotavirus in Stool by PCR	ROTA	**RF**	1 day
Rubella Antibody (IgG)	RUBE	B	4 hours
Rubella Antibody (IgM)	RUBM	B	4 hours
Rubella Avidity	RUAV	B	1 week
Torch Screen	TORC	B	2 days
Varicella Zoster – DNA	VZPC	A	5 days
Varicella Zoster Antibodies (IgG)	VZOS	B	1 day
Varicella Zoster Antibodies (IgM)	VZOM	B	1 day
Viral Antibody Screen	VIRA	B B	2 days
Viral Eye by PCR	VPE	**PCR**	3 days
Viral Respiratory RNA screen by PCR	VPR	**PCR** or as specified on the form	2 days
Viral Skin/Mucosa by PCR	VPSK	**PCR**	2 days
West Nile Virus Abs	WNV	B	2 weeks
Zika Abs IgM and IgG – Antibody detection from 15 days	ZKAB	B	Up to 14 days
Zika RNA by PCR in Semen	ZIKS	**Semen**	Up to 14 days

Virology

VIROLOGY BY BLOOD

VIRAL ANTIBODY SCREEN

Measles IgG
Measles IgM
Mumps IgG
Mumps IgM
Mycoplasma pneumonia
CMV
HSV 1
HSV 2

TAT 2 DAYS

VIRA

B B

NEUROLOGICAL VIRAL SCREEN

Measles IgG
Measles IgM
Mumps IgG
Mumps IgM
CMV IgG
HSV 1 + 2 IgG
HSV 1 + 2 IgM
VZV IgG

TAT 2 DAYS

NVIR

B B

TORCH SCREEN

Toxoplasma Antibodies (IgG, IgM)
Rubella Antibody (IgG, IgM)
CMV Antibody (IgG, IgM)
Herpes Antibody (HSV1/HSV2 IgG)

TAT 2 DAYS

TORC

B

ATYPICAL PNEUMONIA SCREEN

Mycoplasma pneumonia Abs
Chlamydia pneumoniae (MIF)
Legionella pneumophila (IF)

TAT 2 DAYS

APS

B

VIROLOGY BY PCR

COVID-19/FLU/RSV SCREEN

Respiratory Syncytal Virus (RSV)
Flu A
Flu B
COVID-19

TAT 2 DAYS

FLU4

PCR nasopharyngeal

VIRAL SKIN/MUCOSA BY PCR

If chicken pox or shingles suspected, please indicate clearly on request form

Herpes Simplex virus
Varicella Zoster virus

TAT 2 DAYS

VPSK

PCR

VIRAL RESPIRATORY RNA SCREEN BY PCR

Throat swabs, nasopharyngeal aspirates

Adenovirus
Parainfluenza 1,2,3,4
Influenza A and B
Seasonal Coronavirus (not COVID-19)
Parechovirus
Rhinovirus
Enterovirus
Respiratory Syncytial virus A and B
Human metapneumovirus

TAT 2 DAYS

VPR

PCR or as specified on the form

VIRAL EYE BY PCR

Herpes Simplex virus
Varicella Zoster virus
Adenovirus

TAT 3 DAYS

VPE

PCR

CSF SCREEN BY PCR

Herpes Simplex virus
Varicella Zoster virus
Enterovirus

TAT 2 DAYS

VPCR

CSF

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Tumour markers/sites

TEST	CODE	SAMPLE REQS	TAT
Alpha Feto Protein	AFP	B	4 hours
Beta HCG (Oncology)	HCGQ	B	4 hours
Breast Cancer NGS Panel – full gene sequencing	Requires patient informed consent		
	GENE	A A [9,11]	4 weeks
CA 15-3	C153	B	4 hours
CA 19-9	C199	B	4 hours
CA 50	CA50	B	5 days
CA 72-4	C724	B	5 days
CA 125	C125	B	4 hours
Carcino Embryonic Antigen	CEA	B	4 hours
Complex PSA (Prostate Specific Ag)	CPSA	B	3 days
Cyfra 21-1	CY21	B	4 days
Early CDT-Lung	CDTL	B	10 days
HE4 + ROMA (Earlier Detection of Ovarian Tumour)	HE4	B	1 day
Neurone Specific Enolase	NSE	B	5 days
NMP22 (Bladder tumour)	NMP	J [1]	4 days
Osteocalcin	OST	B (Frozen) [4]	4 days
Prostate Profile (Total & Free PSA)	PR2	B	4 hours
Prostate Specific Antigen (Total)*	PSPA	B	4 hours
Pyruvate Kinase (M2-PK)	M2ST	RF [4]	5 days
Pyruvate Kinase (M2-PK)	M2PK	A	5 days
S100 Malignant Melanoma	S100	B	4 days
Squamous Cell Carcinoma	SCC	B	4 days
Testicular Tumour Profile	TTP	B	4 hours

* Results that fall between 4.00 ug/L and 10.00 ug/L will automatically reflex to a Free PSA with a calculated ratio. The ratio of Free to Total PSA may help discriminate between prostate cancer and benign prostatic hyperplasia.

TUMOUR MARKERS/SITES

AFP: Liver, Testes
BHCG: Testes
BRCA1/2: Breast
CA 125: Ovary
CA 15-3: Breast
CA 19-9: Stomach, Colorectal, Gastrointestinal, Pancreas
CA 50: Bladder, Colon
CDTL: Lung
CEA: Stomach, Liver, Breast, Ovary, Gastrointestinal, Lung
Cyfra 21-1: Oesophagus, Lung, Bladder
HE4: Ovary
NMP22: Bladder
NSE: Lung, Brain, Thyroid
PSA: Prostate
S100: Melanoma
SCC: Oesophagus, Bronchus, Lung, Cervix

HE4
Earlier Detection of Ovarian Tumour

HE4/CA125/ROMA
Calculated Algorithm for pre and post menopausal risk of malignant disease

TAT 1 DAY

HE4

B

PROSTATE PROFILE
Total and Free PSA

Total PSA
Free PSA
Calculated Ratio

TAT 4 HOURS

PR2

B

Tumour markers/sites

Site	Tumour marker	Sample type	Turnaround time
Oesophagus	CA 19-9	serum	4 hours
	CEA	serum	4 hours
	SCC	serum	4 days

Site	Tumour marker	Sample type	Turnaround time
Bronchial/ Lung	NSE*	serum	5 days
	SCC*	serum	4 days
	CDTL	serum	7 days
	CEA	serum	4 hours
	Cyfra 21-1	serum	4 days

Site	Tumour marker	Sample type	Turnaround time
Bile duct	CA 19-9	serum	4 hours
	CEA	serum	4 hours

Site	Tumour marker	Sample type	Turnaround time
Pancreas	CA 19-9	serum	4 hours
	CEA	serum	4 hours

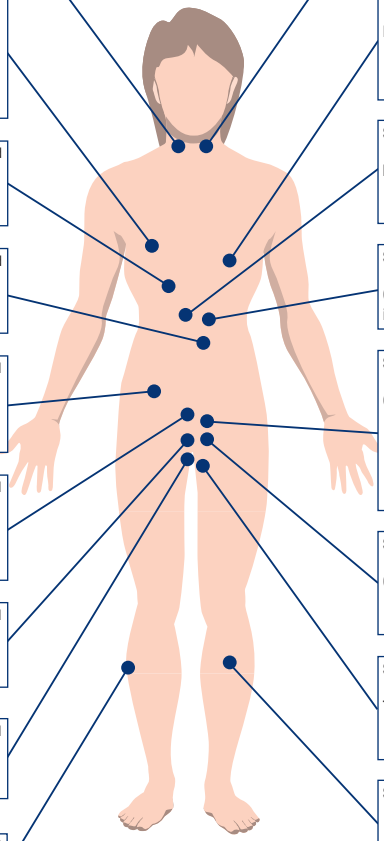
Site	Tumour marker	Sample type	Turnaround time
Carcinoid	5-HIAA	24 hour urine/ acidified	5 days

Site	Tumour marker	Sample type	Turnaround time
Bladder/ Chorion	CEA	serum	4 hours
	CA 50	serum	5 days
	NMP22	urine	4 days

Site	Tumour marker	Sample type	Turnaround time
Cervix/ Uterus	SCC	serum	4 days
	CEA	serum	4 hours

Site	Tumour marker	Sample type	Turnaround time
Prostate	Prostate Profile (Total + Free PSA)	serum	4 hours

Site	Tumour marker	Sample type	Turnaround time
Melanoma	S-100	serum	4 days



Site	Tumour marker	Sample type	Turnaround time
Thyroid	CEA	serum	4 hours
	Thyroglobulin	serum	1 day
	Calcitonin	1ml Frozen serum	1 day

Site	Tumour marker	Sample type	Turnaround time
Breast	Breast Cancer NGS Panel	EDTA	4 weeks
	CA 15-3	serum	4 hours
	CEA	serum	4 hours

Site	Tumour marker	Sample type	Turnaround time
Liver	AFP	serum	4 hours
	CEA	serum	4 hours
	Ferritin	serum	4 hours

Site	Tumour marker	Sample type	Turnaround time
Gastro-intestine	CEA	serum	4 hours
	CA 19-9	serum	4 hours

Site	Tumour marker	Sample type	Turnaround time
Ovary	Ovarian Cancer NGS Panel	EDTA	4 weeks
	CA 125	serum	4 hours
	CA 15-3	serum	4 hours
	HE4	serum	1 day
	AFP	serum	4 hours

Site	Tumour marker	Sample type	Turnaround time
Colon	CEA	serum	4 hours
	CA 19-9	serum	4 hours
	CA 50	serum	5 days

Site	Tumour marker	Sample type	Turnaround time
Testes	AFP	serum	4 hours
	Beta HCG (quantitative)	serum	4 hours

Site	Tumour marker	Sample type	Turnaround time
	Osteocalcin	serum (frozen)	4 days

* NSE: Neurone Specific Enolase
SCC: Squamous Cell Carcinoma

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

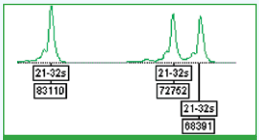
TDL Genetics

TDL Genetics is a consultant-led service which is able to provide extensive expertise in the testing, diagnosis and genetic counselling of inherited disorders. Genetic tests are performed on DNA for molecular genetic analysis and on whole chromosomes for cytogenetic analysis. Some tests are part of profiles that can be linked with assays from other TDL disciplines, such as biochemistry and haematology, to give more comprehensive results for the patient.

Genetic tests are available for:

- Prenatal diagnosis and rapid trisomy screening by Amnio-PCR
- Carrier screening
- Newborn chromosome analysis
- Confirmation of symptomatic individuals and pre-symptomatic testing
- Genetic variation that influences risk of disease
- Identity studies (paternity, zygosity, tissue typing)
- Fertility studies
- Products of conception
- Cancer

DNA peaks from normal fetus



DNA peaks from Down Syndrome fetus

Genetic testing is sometimes complex and tests will vary in their ability to detect mutations or to detect all patients who have, or will develop, the disease. Some tests are diagnostic for a condition, others are indicative or are associated with an altered risk for a condition. Results can affect the lives of individuals and have implications for their family, for insurance and employment. Where testing will predict the inheritance of a disease in a healthy person, counselling and consent are mandatory. For these tests, please complete the Genetic Request form at the back of the guide (including informed consent). Our service provides result interpretation and risk assessment to patients and their family members. Genetic counselling can be arranged by TDL's Consultant Clinical Geneticist.

To meet the increasing range and complexity of genetic testing we have developed an excellent collaboration with other specialist laboratories. Tests marked GENE are sent to these laboratories within our network and have a fixed price. GENE panel composition may change throughout the year to reflect new and improved developments. Turnaround times may be longer if follow-up studies are required.

Specimen Receipt at The Doctors Laboratory is 24 hours a day. Specifically, TDL Genetics results service is available Monday to Friday 8.30am – 5.30pm with the laboratory also open for processing of samples on Saturdays from 9.00am – 1.00pm.

Test codes, sample requirement codes, turnaround times, and prices may be found on the following pages. All samples must be collected in the specified containers, as shown in the key at the back of this guide. Samples should be fresh and in good condition (e.g. not clotted if EDTA or heparinised whole blood is required) otherwise testing may be adversely affected and another sample may be required. Small DNA samples are stored routinely for one year, larger DNA samples can be stored by special arrangement.

Instructions for transportation, sample labelling, and the completion of request forms can be found on the reverse of the TDL Genetics Request Form.

The locations of the Laboratory and Patient Reception are indicated on the map on the reverse of each request form. If you do not find the test you require in this directory or need more information and advice please telephone the laboratory on 020 7307 7409.

Always provide Clinical Details and Family History with requests for Genetic Tests.

Key: See page 23 for sample-taking and special handling instructions.

TDL Genetics

Sending samples to the laboratory

Transport arrangements

All specimens should be kept at room temperature and despatched to the laboratory as soon as possible, by TDL/international courier, first class post, guaranteed next day delivery or a reliable alternative.

If a delay in sending the sample is unavoidable, please refrigerate overnight – DO NOT FREEZE. Specimens must not be allowed to come in contact with request forms, but should be kept separate by using dual – pocketed plastic bags. Specimens for inland postage must be packed in a rigid crush-proof container according to current Post Office guidelines. IATA guidelines should be followed for international transport (Advice is available from the laboratory).

Labelling of high risk samples

Please note that it is the responsibility of the referring clinician to ensure that high-risk samples are clearly identified to reduce the risk of infection to staff and others.

Patient details on request forms and samples

Request and consent forms are available directly from TDL Genetics.

In order to avoid unnecessary time spent in obtaining details please provide the following information:

Information for request forms:

- Surname, forename (not initials), date of birth and biological sex of patient for postnatal referrals
- Full name (not initials) and location of referring clinician
- Full address of clinician to whom the result should be sent
- Legible clinical summary, including details of any relevant family history
- Address for billing – Doctor, patient or other
- Gestation on prenatal samples
- Hospital or reference number
- Test required

Essential information on sample container label:

- Patients surname and forename (not initials)
- Date of birth
- Hospital number or reference number

Consent forms

Consent forms (at the back of this guide) are available for genetic testing. As genetic testing may have implications for other family members and is regarded as personal data, it is recommended that written consent is obtained wherever possible. In cases with predictive testing for severe disorders, as indicated in the laboratory guide, it is essential that patients should also be offered formal genetic counselling. It is the responsibility of the referring clinician to obtain appropriate consent from the patient.

Unlabelled samples

Unlabelled samples will ONLY be processed if the individual who took the sample can confirm the sample is from the patient in question. In the absence of this assurance, the sample will be discarded and a repeat required.

Always provide Clinical Details and Family History with requests for Genetic Tests.

Key: See page 23 for sample-taking and special handling instructions.

TDL Genetics

Genetic Testing

THE IMPORTANCE OF CLINICAL DETAILS

Clinical details are very important when providing genetic analysis. The more clinical information that is available (e.g. details of ultrasound information, phenotypic features or family history) the better the service we can provide. Failure to provide this information for cytogenetic studies may result in an inaccurate analysis.

MOLECULAR GENETICS

Clinical details can be extremely important for clinical interpretation of a molecular genetic test.

For example, the clinical comments accompanying a cystic fibrosis screening report will vary depending on whether the patient is a potential gamete donor or a person exhibiting a cystic fibrosis phenotype.

It may also be crucial, where a mutation has already been shown to be segregating in a family, to be provided with information concerning the mutation and a family pedigree to ensure the correct analysis is performed and reliable risk figures calculated.

CYTOGENETICS

Cytogenetic analysis is performed according to the Professional Guidelines for the Association of Clinical Genetic Science and the recommendations provided are dependent on the clinical indications given for each case.

Clinical details inform the investigation at all stages:

- Prior to analysis, clinical details may indicate, for example, that procedures such as chromosome breakage or leukaemic studies are required, which must be referred to the oncogenomic department or specialist centre.
- During analysis they may indicate that extra cells should be screened to investigate the possibility of mosaicism, for example in a diagnosis of suspected Turner syndrome, or that particular chromosomes must be targeted for high-resolution study, for example chromosome 4 in suspected Wolf-Hirschhorn syndrome.
- When the analysis has been completed they may help to provide an accurate interpretation of the findings and in some instances prompt further investigations, for example FISH or molecular genetic studies.

When clinical details are not available a routine analysis will be performed and a conditional report issued.

SAMPLE STABILITY

Molecular Genetic Samples

Whole blood collected in EDTA should be sent to the laboratory between 4˚C-28˚C within 48 hours.

Long term storage should be at 2-8°C.

Extracted DNA samples should be sent to the laboratory between 4˚C-28˚C.

Cytogenetic Samples

Cytogenetic studies require living cells, please ensure that samples reach the laboratory as soon as possible. If a delay before dispatch is unavoidable, samples may be stored in a refrigerator (4°C) but they must **not** be frozen.

Samples sent more than 48 hours after sampling, or kept at temperatures below 4˚C and greater than 38˚C may have inhibited growth.

Information concerning packaging, transportation, and labelling of samples is provided on the reverse of our TDL Genetics Request Form.

Requesting additional tests

Any further tests not requested at the time of sample receipt must be requested within:

- 1 week for tests requiring prenatal culture or cultured cells
- 2 weeks for DNA testing
- 2 weeks for cell culture testing
- 3 months for FISH testing

Samples can be stored for longer periods if specifically requested at the time of sample receipt.

POSTNATAL DIAGNOSIS (BLOOD CULTURE)

Reasons for analysis: Chromosome studies are requested where problems that may have a cytogenetic basis are suspected, e.g. babies with birth defects; children with developmental delay and physical handicaps, or adults with fertility problems. Additionally, prospective gamete donors are screened to detect carriers of balanced chromosome rearrangements.

Sample requirements: Lithium heparin whole blood specimens are required – gently mixed to prevent clotting and must **not** be frozen, See sample stability section for cytogenetic samples. Sample volumes may be reduced for children (2-4ml) and neonates (1-2ml).

Turnaround time: The usual turnaround time is 2-3 weeks however the laboratory will endeavour to respond to urgent requests. Where a major trisomy is suspected, a rapid PCR screen may be performed to provide an urgent provisional result.

Notes

a) Rarely, blood samples fail to culture (<1%);

b) The culture may yield chromosomes of insufficient quality. This will be indicated on the report and a repeat study suggested;

c) The laboratory should be informed if the patient has recently received a blood transfusion.

d) The laboratory should be informed if the patient has EVER had a bone marrow transplant.

e) The patient's biological sex should be included on the request form.

PRENATAL DIAGNOSIS

Reasons for analysis: Chromosome studies are requested where pregnancies are identified as being at risk of a cytogenetic abnormality e.g. positive maternal serum screening combined NT test; fetal abnormalities found on ultrasound; or where a parent is a known carrier of a chromosome anomaly, or where a high risk trisomy has been found by NIPT.

Sample requirements:

a) amniotic fluid – 10ml+ in a plain sterile, leak-proof container. Suitable containers can be provided by the laboratory. The specimen must **not** be frozen. See sample stability section for cytogenetic samples.

b) chorionic villus – 5mg+ in sterile transport medium. Suitable containers containing medium can be provided by the laboratory. The specimen must **not** be frozen. See sample stability section for cytogenetic samples.

c) fetal blood – 1-2ml LITHIUM HEPARIN whole blood, gently mixed to prevent clotting. The specimen must **not** be frozen. See sample stability section for cytogenetic samples.

Turnaround time: This is dependent on the rate of cell growth, however, the usual turnaround time is approximately 2 weeks. A number of circumstances now occur more frequently, as invasive prenatal diagnosis becomes less common, that may result in delayed reporting time. These include:

a) A delay in transportation in order to collect a batch of samples to reduce courier costs. Even when couriered promptly, sample growth may be slower than that seen in samples sent immediately.

b) Sampling at early or late gestations, for example to confirm non-invasive tests or follow up anomaly scans.

c) A tendency to take smaller quantities of sample or to take insufficient sample for multiple techniques.

d) The request for karyotyping as an add-on after an initial PCR test.

Fetal blood results will usually be reported by 10 calendar days. **For all other prenatal tests, please contact the laboratory prior to taking samples.**

Notes

a) Maternal contamination, and mosaicism may complicate the analysis and may lead to the suggestion that a second invasive test is performed.

b) Rarely, cultures fail to grow (overall <1%)

c) Very small chromosome abnormalities may not be detected (this is why the phrase 'No trisomies or major chromosome abnormalities detected…' is used in our reports).

d) for TTTs or heavily blood stained amniocentesis samples, please provide a maternal EDTA blood sample for comparison studies.

SOLID TISSUE

Reasons for analysis: Fibroblast cultures may be used in addition to blood cultures, for example where tissue specific mosaicism is suspected, or where blood samples cannot be obtained. POC samples may be requested for early spontaneous miscarriages, stillbirths, or to confirm a prenatal diagnosis.

Sample requirements: All specimens should be placed in a sterile container, preferably containing transport medium. This can be supplied by the laboratory. Sterile normal saline can be used if transport medium is not available. Samples must not be placed in formaldehyde or other preservative and must not be frozen. See sample stability section for cytogenetic samples.

Turnaround time: This is dependent on the rate of cell growth, however, the usual turnaround time is approximately 4 weeks.

Notes

a) Material from miscarriages has a relatively high culture failure rate (around 20%). Where failure occurs, alternative molecular methods may be attempted, usually a KaryoLite Bacs-on-Beads assay that can detect whole monosomy or trisomy of any chromosome, if possible.

b) If no villus or fetal parts are identified in supposedly POC material and a normal female chromosome result is found, this may indicate that maternal tissue has been cultured (this will be noted on our report).

c) Material from miscarriages can be returned for sensitive disposal if requested at the time of receipt. If no special request is made, fetal material will be sent for incineration separate from general clinical waste. Placental and other POC material will be disposed of in general clinical waste for incineration.

FLUORESCENCE IN SITU HYBRIDISATION (FISH)

Where FISH studies for specific microdeletion syndromes are required this must be indicated on the request form.

Note: FISH studies for a rapid pre or postnatal aneuploidy screen have now been superseded in our laboratory by multiplex-PCR technology. Subtelomeric screens are now performed by Array CGH as part of developmental delay investigations. Common microdeletion syndrome testing is now performed by BOBs analysis.

CELL LINE KARYOLOGY

The cytogenetics laboratory can perform cell line karyology on live cultures or fixed cells suspensions (recommended) on a research basis. Please note: a laboratory processing charge of £100+VAT is applicable to those cases wherein a successful analysis cannot be obtained. Please contact the laboratory for further details.

STATEMENT REGARDING MEASUREMENT UNCERTAINTY (MU)

Measurement Uncertainty is determined for each measurement procedure in the examination phase used to report measured quantity values on patients' samples. This is determined during verification of this assay for service introduction; creation of laboratory standard operating procedures (SOP) and interpretation of the results.

Where examinations include a measurement step but do not report a measured quantity value, the laboratory calculates the uncertainty of the measurement step where it has utility in assessing the reliability of the examination procedure or has influence on the reported result.

Estimates of measurement uncertainty are regularly reviewed and are available upon request to laboratory users.

TDL Genetics

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Always provide Clinical Details and Family History with requests for Genetic Tests.

Key: See page 23 for sample-taking and special handling instructions.

TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
1p36 Deletion Syndrome – karyotype + FISH	KARY, FISH	**CVS** / **AF** / (H) [9]	12-17 days
21-Hydroxylase Deficiency (Congenital Adrenal Hyperplasia)	GENE	Requires patient informed consent (A) [9,11]	9 weeks
22q11 & 10p14 deletion (Di George Syndrome) – BOBs only	DGB	**CVS** / **AF** / (A) [9]	5 days
22q11 & 10p14 deletion (Di George Syndrome) – BOBs (5 days) + karyotype (15 days)	DGB, KARY	**CVS** / **AF** / (A) (H) [9]	5-15 days
Achromatopsia NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A) (A) [9]	5 weeks
Aicardi-Goutières Syndrome NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A) (A) [9]	7 weeks
Alagille Syndrome NGS Panel – full sequencing JAG1 + NOTCH2 genes	GENE	Requires patient informed consent (A) (A) [9]	6 weeks
Alpha Fetoprotein on Amniotic fluid	AFPA	**AF** [9]	5-10 days
Alpha Thalassaemia – multiplex PCR for common large deletions	GENE	Requires patient informed consent (A) [9]	4 weeks
Alpha-1 Antitrypsin Genotype – PI*M, PI*S, PI*Z	GENE	Requires patient informed consent (A) [9]	6 weeks
Alport Syndrome NGS Panel – full sequencing COL4A3 + COL4A4 + COL4A5 + MYH9 genes	GENE	Requires patient informed consent (A) (A) [9]	9 weeks
Amelogenesis/Dentinogenesis Imperfecta NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A) (A) [9]	6 weeks
AML/ALL Molecular MRD – NPM1, PML-RARA, CBFB-MYH11, RUNX1-RUNX1T1, ETV6-RUNX1 – *Contact lab for further information*	GENE	Requires patient informed consent **Bone Marrow** / (A)	5 days
AmnioBOBs only – rapid aneuploidy diagnosis for all chromosomes + common microdeletion syndromes	ABOB	**AF** [9]	5 days
Amniocentesis – rapid BOBs aneuploidy diagnosis for all chromosomes (5 days) + culture (10-15 days) – see profiles	ABK	**AF** [9]	5-15 days
Amniocentesis – rapid PCR diagnosis for common aneuploidies (2 days) + culture (10-15 days)	APCC	**AF** [9]	2-15 days
Amniocentesis culture (karyotype) only	ACUL	**AF** [9]	10-15 days
AmnioPCR only – rapid common aneuploidy diagnosis by QF-PCR	APC	**AF** [9]	2 days
Amylotrophic Lateral Sclerosis (Motor Neurone Disease) NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A) (A) [9]	8 weeks

Always provide Clinical Details and Family History with requests for Genetic Tests.

Key: See page 23 for sample-taking and special handling instructions.

TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
Androgen Insensitivity – AR gene sequencing	GENE	Requires patient informed consent (A) [9]	9 weeks
Aneurysm/Connective Tissue Disorders/Ehlers-Danlos Syndrome NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A) [9]	7 weeks
Angelman Syndrome (Primary Screen) – methylation PCR	PWAM	(A) [9]	10 days
Angelman/Rett Syndromes NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	6 weeks
Aniridia, Isolated – PAX6 gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A) [9]	8 weeks
Anophthalmia/Microphthalmia NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	9 weeks
Antithrombin Deficiency – SERPINC1 Gene Variant Analysis (Known Genotype)	ATMA	(A)(A) (Whole Blood 10ml) [40]	6 weeks
Antithrombin Deficiency – SERPINC1 Gene Variant Analysis (Unknown Genotype)	ATMA	(A)(A) (Whole Blood 10ml) [40]	12 weeks
Aortopathy/Marfan Syndrome/ Loeys-Dietz Syndrome NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	9 weeks
Apert Syndrome – common FGFR2 mutations	GENE	Requires patient informed consent (A) [9]	9 weeks
Apolipoprotein E genotype – E2, E3, E4	APEG	(A) [9]	5 days
Array CGH (Comparative Genomic Hybridisation)	CGH	**CVS** / **AF** / (A)(H) [9]	10 days
Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC) NGS Panel – sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A) [9]	4 weeks
Ashkenazi Breast Cancer Screen – common mutations	GENE	Requires patient informed consent (A) [9,11]	4 weeks
Ashkenazi Jewish Carrier Screen – see Carrier Screen on page 132 for details	GENE	Requires patient informed consent (A) [9]	4 weeks
Ataxia/Episodic Ataxia Disorders NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	9 weeks
Autoinflammation/Periodic Fever NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	9 weeks
Azoospermia – karyotype + cystic fibrosis screen + polyT(5T) + Y deletions	GRP	(A)(H) [9]	10-15 days
B cell clonality assay (IgH and IgK)	IGHA	(A) or **FFPE**	2 weeks
Bardet-Biedl Syndrome NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	9 weeks

Always provide Clinical Details and Family History with requests for Genetic Tests.
Turnaround times are quoted as working days.

TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
Batten Disease (Neuronal Ceroid Lipofuscinosis) NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A) (A) [9]	9 weeks
BCR-ABL Diagnostic Assay	BCRD	(A)	2 weeks
BCR/ABL Quantitative – fusion gene sizes p190 + p210 – **MUST arrive in the laboratory within 48 hours, before 12pm on Fridays**	BCRA	(A) (A) [9]	10 days
Becker Muscular Dystrophy – deletions/duplications	DMD	(A) [9]	10 days
Beckwith-Wiedemann Syndrome – methylation studies on 11p15 imprinting domains KvDMR + H19	GENE	Requires patient informed consent (A) [9]	4 weeks
Behcet's Disease – HLA Tissue Typing B*51	B51	(A) [9]	10 days
Beta Thalassaemia – beta-globin gene sequencing	GENE	Requires patient informed consent (A) [9]	5 weeks
Bleeding and Platelet Gene Panel (known familial variants) – Contact lab	GENE	Requires patient informed consent (A) (A)	6 weeks
Bleeding and Platelet Gene Panel (unknown familial variants) – Contact lab	GENE	Requires patient informed consent (A) (A)	12 weeks
Blood PCR for Chromosome 21	BPCR	(A)	5 days
BRAF V600E mutation by PCR for Hairy Cell Leukaemia	GENE	Requires patient informed consent **Bone Marrow** / (A)	5 days
Breast Cancer Ashkenazi Screen – common mutations	GENE	Requires patient informed consent (A) [9,11]	4 weeks
Breast Cancer – BRCA1 + BRCA2 only gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)	4 weeks
Breast Cancer NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A) (A) [9,11]	4 weeks
Brugada Syndrome/Long-QT NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A) (A) [9]	4 weeks
C-KIT D816V mutation by PCR for Mastocytosis	GENE	Requires patient informed consent **Bone Marrow** / (A)	5 days
CADASIL – NOTCH3 gene sequencing	GENE	Requires patient informed consent (A) [9]	6 weeks
CAKUT (Congenital Anomalies of Kidney & Urinary Tract) NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A) (A) [9]	9 weeks
Calreticulin – CALR exon 9 mutation screen	CALR	(A) [9]	2 weeks
Cancer, Comprehensive NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A) (A) [9,11]	6 weeks

Always provide Clinical Details and Family History with requests for Genetic Tests.

Key: See page 23 for sample-taking and special handling instructions.

TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
Carbohydrate Metabolism Deficiency NGS Panel – full gene sequencing + deletions/duplications + mitochondrial DNA	GENE	Requires patient informed consent (A)(A)[9]	9 weeks
Cardio-Facio-Cutaneous/Noonan/ LEOPARD/Costello Syndromes NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
Cardiomyopathy, Arrhythmogenic Right Ventricular NGS Panel – sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A)[9]	4 weeks
Cardiomyopathy, Comprehensive NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
Cardiomyopathy, Dilated NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
Cardiomyopathy, Hypertrophic NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
Carrier Screen (Ashkenazi Jewish)	GENE	Requires patient informed consent (A)[9]	4 weeks
Carrier Screen (Ashkenazi Jewish) – Partnered Report – Please contact the lab for special requirements before sending	GENE	Requires patient informed consent (A)[9]	4 weeks
Carrier Screen (Pan-Ethnic)	GENE	Requires patient informed consent (A)[9]	4 weeks
Carrier Screen (Pan-Ethnic) – Partnered Report – Please contact the lab for special requirements before sending	GENE	Requires patient informed consent (A)[9]	4 weeks
Charcot-Marie-Tooth Syndrome NGS Panel – full gene sequencing. Evidence of neurology counselling and genetic consent form is required.	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
Charcot-Marie-Tooth Type 1A – PMP22 duplications – Evidence of neurology counselling and genetic consent form is required.	GENE	Requires patient informed consent (A)[9]	7 weeks
CHARGE Syndrome – CHD7 gene sequencing	GENE	Requires patient informed consent (A)[9]	8 weeks
Chediak-Higashi Syndrome – LYST gene sequencing	GENE	Requires patient informed consent (A)[9]	6 weeks
Cholestasis, Intrahepatic NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	9 weeks
Chromosome Analysis (Amniocentesis) – culture only	ACUL	**AF**[9]	10-15 days

Always provide Clinical Details and Family History with requests for Genetic Tests.
Turnaround times are quoted as working days.

TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
Chromosome Analysis (Amniocentesis) – rapid BOBs aneuploidy diagnosis for all chromosomes (5 days) + culture (10-15 days) – see profiles	ABK	**AF** [9]	5-15 days
Chromosome Analysis (Amniocentesis) – rapid PCR diagnosis for common aneuploidies (2 days) + culture (10-15 days)	APCC	**AF** [9]	2-15 days
Chromosome Analysis (Blood)	KARY	H [9]	2-3 weeks
Chromosome Analysis (Chorionic Villus) – rapid BOBs aneuploidy diagnosis for all chromosomes (5 days) + culture (10-15 days) – see profiles	CBK	**CVS** [9]	5-15 days
Chromosome Analysis (Chorionic Villus) – rapid PCR diagnosis for common aneuploidies (2 days) + culture (10-15 days)	CVPC	**CVS** [1,9]	2-15 days
Chromosome Analysis (Chorionic Villus) – culture only	CVSC	**CVS** [1,9]	10-15 days
Chromosome Analysis (Products of Conception) – reflex to BOBs testing if culture fails to grow – reflex to BOBs testing if culture fails to grow	PROC	**Placental Sample** [1,9]	20-25 days
Chromosome Analysis (Products of Conception) – BOBs rapid aneuploidy diagnosis for all chromosomes (5 days) + culture (25 days)	PBK	**Placental Sample** [1,9]	5-25 days
Chromosome Analysis (Solid Tissue)	PROC	**Fetal tissue** [1,9]	4-5 weeks
Chromosome Analysis (Stem Cells)	STEM/ SUSP	**Culture/Fixed cells**	Contact lab
Chromosome Y Deletion – AZFa, AZFb, AZFc + SRY	YDEL	A [9]	5 days
Cockayne Syndrome NGS Panel – full sequencing ERCC6 + ERCC8	GENE	Requires patient informed consent A A [9]	6 weeks
Coeliac Disease – HLA DQ2/DQ8 Genotype	Q2Q8	A [9]	10 days
Colorectal Cancer NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent A A [9,11]	4 weeks
Comparative Genomic Hybridisation (Array CGH)	CGH	**CVS** / **AF** / A H [9]	10 days
Congenital Absence of Vas Deferens – karyotype + cystic fibrosis screen + polyT(5T) + Y deletions	GRP	A H [9]	10-15 days
Congenital Muscular Dystrophy NGS Panel – full gene sequencing	GENE	Requires patient informed consent A A [9]	9 weeks
Connective Tissue Disorders/ Ehlers-Danlos Syndrome/ Aneurysm NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent A A [9]	7 weeks

Always provide Clinical Details and Family History with requests for Genetic Tests.

Key: See page 23 for sample-taking and special handling instructions.

TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
Connexin-26 Associated Deafness – full sequencing of GJB2 gene	GENE	Requires patient informed consent (A)[9]	8 weeks
Connexin-30 Associated Deafness – full sequence of the GJB6 gene	GENE	Requires patient informed consent (A)[9]	8 weeks
Cornelia de Lange Syndrome NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
Costello/Noonan/LEOPARD/Cardio-Facio-Cutaneous Syndromes NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
Craniosynostosis and related disorders NGS Panel	GENE	Requires patient informed consent (A)(A)	6 weeks
Cri du Chat Syndrome – BOBs (5 days) + karyotype (15 days)	PBOB, KARY	**CVS** / **AF** / (A)(H)[9]	5-15 days
Cri du Chat Syndrome – BOBs only	PBOB	**CVS** / **AF** / (A)[9]	5 days
CVS PCR for common aneuploidies (2 days) + culture (10-15 days)	CVPC	**CVS**[1,9]	2-15 days
CVSBOBs – rapid BOBs aneuploidy diagnosis for all chromosomes (3-5 days) + culture (10-15 days)	CBK	**CVS**[9]	5-15 days
CVSBOBs only – rapid aneuploidy diagnosis for all chromosomes + common microdeletion syndromes	CBOB	**CVS**[9]	5 days
CYP450 2D6 Genotyping	TGEN	(A)[9]	10 days
Cystic Fibrosis (139 common mutations) – reflex to Poly T when required	CFS	(A)[9]	5-7 days
Deafness NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
Dentinogenesis/Amelogenesis Imperfecta NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
NEW **Diabetes** – Obesity NGS Panel	GENE	Requires patient informed consent (A)	6 weeks
Diabetes Panel – MODY + Neonatal	GENE	Requires patient informed consent (A)	7 weeks
DiGeorge Syndrome (22q11 & 10p14 deletion) – BOBs (5 days) + karyotype (15 days)	DGB, KARY	**CVS** / **AF** / (A)(H)[9]	5-15 days
DiGeorge Syndrome (22q11 & 10p14) – BOBs only	DGB	**CVS** / **AF** / (A)[9]	5 days
Dihydropyrimidine Dehydrogenase deficiency screening (Fluoropyrimidine Toxicity)	5FU	(A)[9]	1-2 weeks
Dilated Cardiomyopathy NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
DNA Extraction & Storage – 3 years (longer upon request)	XDNA	(A)[9]	20 days

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Turnaround times are quoted as working days.

TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
DNA Identity Profile – 15 STR markers	DNAF	A [9,11]	10 days
Duchenne Muscular Dystrophy – deletions/duplications only	DMD	A [9]	10 days
Duchenne Muscular Dystrophy – full sequencing DMD1 gene	GENE	Requires patient informed consent A [9]	6 weeks
DVT/Pre-travel Screen	DVT1	A A B [9]	5 days
Ehlers-Danlos Syndrome/Aneurysm/ Connective Tissue Disorders NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent A A [9]	7 weeks
Endometrial Cancer NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent A A [9,11]	4 weeks
Epidermolysis Bullosa, Comprehensive NGS Panel – full sequencing	GENE	Requires patient informed consent A A [9]	8 weeks
Epidermolysis Bullosa, Simplex Panel – full sequencing of KRT5 + KRT14 genes	GENE	Requires patient informed consent A A [9]	8 weeks
Epilepsy, Adolescent/Adult Onset Panel – sequencing + deletions/duplications	GENE	Requires patient informed consent A	6 weeks
Epilepsy, Comprehensive NGS Panel – full sequencing + deletions/duplications	GENE	Requires patient informed consent A A [9]	6 weeks
Epileptic Encephalopathy NGS Panel	GENE	Requires patient informed consent A	6 weeks
Exudative Vitreoretinopathy, Familial (FEVR) NGS Panel – full gene sequencing	GENE	Requires patient informed consent A A [9]	8 weeks
Eye Developmental Disease NGS Panel – full gene sequencing	GENE	Requires patient informed consent A A [9]	6 weeks
Fabry Disease, X-linked – GLA gene sequencing	FABM	A [9]	6 weeks
Facioscapulohumeral Muscular Dystropy (FSHD) – D4Z4 repeat deletion – *Contact lab prior to sending.* Evidence of neurology counselling and genetic consent form is required.	GENE	Requires patient informed consent A A A [9]	9 weeks
Factor II Prothrombin – G20210A mutation	FX2	A [9]	5 days
Factor V Leiden – G1691A mutation	FX5	A [9]	5 days
Factor VII Deficiency – F7 Gene Variant Analysis (Known Genotype)	7MA	A A (Whole blood 10ml) [40]	6 weeks
Factor VII Deficiency – F7 Gene Variant Analysis (Unknown Genotype)	7MA	A A (Whole blood 10ml) [40]	12 weeks
Factor X Deficiency – F10 Gene Variant Analysis (Known Genotype)	10MA	A A (Whole blood 10ml) [40]	6 weeks
Factor X Deficiency – F10 Gene Variant Analysis (Unknown Genotype)	10MA	A A (Whole blood 10ml) [40]	12 weeks

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Key: See page 23 for sample-taking and special handling instructions.

TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
Factor XI Deficiency – F11 Gene Variant Analysis (Known Genotype)	11MA	AA (Whole blood 10ml)[40]	6 weeks
Factor XI Deficiency – F11 Gene Variant Analysis (Unknown Genotype)	11MA	AA (Whole blood 10ml)[40]	12 weeks
Familial Adenomatous Polyposis (FAP) – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent AA[9,11]	4 weeks
Familial Exudative Vitreoretinopathy (FEVR) NGS Panel – full gene sequencing	GENE	Requires patient informed consent AA[9]	8 weeks
Familial Hypercholesterolaemia – LDLR + APOB + PCSK9 + LDLRAP1 screening	GENE	Requires patient informed consent AA[9]	7 weeks
Familial Hypocalciuric Hypercalcaemia (FHH) Panel – full sequencing CASR + AP2S1 + GNA11 genes	GENE	Requires patient informed consent AA[9]	9 weeks
Familial Mediterranean Fever – hotspot sequencing MEFV gene	GENE	Requires patient informed consent A[9]	6 weeks
Familial Medullary Thyroid Carcinoma – hotspot sequencing RET gene	GENE	Requires patient informed consent A[9,11]	8 weeks
Fatty Acid Oxidation Deficiency NGS Panel – full gene sequencing	GENE	Requires patient informed consent AA[9]	6 weeks
Fever (Recurrent) Screening	GENE	Requires patient informed consent AA	10 weeks
FLT3-ITD and FLT3-TKD screening assay	FLT3	A	24 hours
Fragile X Syndrome screen – FMR1 repeat analysis PCR	GENE	Requires patient informed consent AAA[9]	3-8 weeks
Friedreich Ataxia – frataxin gene repeat analysis	GENE	Requires patient informed consent A[9]	6 weeks
Gastric Cancer NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent AA[9,11]	4 weeks
Gaucher Disease	GENE	Requires patient informed consent A[9]	5 weeks
Gaucher Disease full gene sequencing	GDMA	A[40]	4 weeks
Genetic Reproductive Profile (Male) – see profiles	GRP	AH[9]	10-15 days
Gilbert Syndrome – common UGT1A1 repeat variation	GENE	Requires patient informed consent A[9]	6 weeks
Glaucoma NGS Panel – full gene sequencing	GENE	Requires patient informed consent AA[9]	6 weeks
Glucose-6-Phosphate Dehydrogenase (G6PD) Deficiency – full G6PD gene sequencing	GENE	Requires patient informed consent A[9]	4 weeks
Glycogen storage disease type 2 (Pompe) mutation analysis	POMP	A	4 weeks

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TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
Haemochromatosis – HFE common mutations C282Y + H63D	HMD	A [9]	3 days
Haemolytic–Uremic Syndrome NGS Panel – full gene sequencing	GENE	Requires patient informed consent A A [9]	9 weeks
Haemophilia A CVS Variant Analysis (Known Genotype) – F8 Intron 22 Inversion, F8 Intron 1 Inversion, Sequence analysis of known variants for F8 gene	8CVS	**CVS** [40]	3 days
Haemophilia A Variant Analysis (Known Genotype) – F8 Intron 22 Inversion, F8 Intron 1 Inversion, Sequence analysis of known variants for F8 gene	HACD	A A (Whole blood 10ml) [40]	6 weeks
Haemophilia A Variant Analysis (Unknown Genotype) – F8 Intron 22 Inversion, F8 Intron 1 Inversion, Sequence analysis of unknown variants for F8 gene	GENE	Requires patient informed consent A A (Whole blood 10ml) [40]	12 weeks
Haemophilia B CVS Variant Analysis (Known Genotype) – Sequence analysis of known variants for F9	9CVS	**CVS** [40]	3 days
Haemophilia B Variant Analysis (Known Genotype) – Sequence analysis of known variants for F9	HBCD	A A (Whole blood 10ml) [40]	6 weeks
Haemophilia B Variant Analysis (Unknown Genotype) – Sequence analysis of unknown variants for F9	HBMA	A A (Whole blood 10ml) [40]	12 weeks
Harmony® Prenatal Test (Non-Invasive Prenatal Testing) – common aneuploidy screening from maternal blood	NIPT	**J/Special tubes** [1]	3-5 days
Hearing Loss NGS Panel – full gene sequencing	GENE	Requires patient informed consent A A [9]	6 weeks
Hemiplegic Migraine, Familial NGS Panel – full gene sequencing + mtDNA	GENE	Requires patient informed consent A A [9]	9 weeks
Hereditary Cancer NGS Panel, Comprehensive – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent A A [9,11]	6 weeks
Hereditary Hemorrhagic Telangiectasia – ACVRL1 + ENG full sequencing + deletions/duplications	GENE	Requires patient informed consent A A [9]	9 weeks
Hereditary Neuropathy NGS Panel – full gene sequencing. Evidence of neurology counselling and genetic consent form is required.	GENE	Requires patient informed consent A A [9]	6 weeks
Hereditary Neuropathy with Liability to Pressure Palsy – PMP22 deletion analysis. Evidence of neurology counselling and genetic consent form is required.	GENE	Requires patient informed consent A [9]	7 weeks

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TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
Hereditary Colon Cancer (Lynch Syndrome) NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent AA 9,11	4 weeks
Hereditary Spastic Paraplegia NGS Panel – full gene sequencing + deletions/ duplications + mitochondrial DNA	GENE	Requires patient informed consent AA 9	9 weeks
Hermansky-Pudlak Syndrome/ Oculocutaneous Albinism/ Pigmentation NGS Panel – full gene sequencing	GENE	Requires patient informed consent AA 9	5 weeks
HFE gene (Haemochromatosis) – common mutations C282Y + H63D	HMD	A 9	3 days
Hirschprung Disease NGS Panel – full sequencing across 6 genes + copy number variant	GENE	Requires patient informed consent AA 9	6 weeks
HLA Tissue Typing A	HLA	A 9	10 days
HLA Tissue Typing A+B	HLBA	A 9	10 days
HLA Tissue Typing A+B+C (Class I)	HABC	A 9	10 days
HLA Tissue Typing A/B/DRB1/3/4/5	HLAF	A 9	10 days
HLA Tissue Typing A/B/ DRB1/3/4/5/DQB1	HLF	A 9	10 days
HLA Tissue Typing A/B/C/ DRB1/3/4/5/DQB1 (Class I & II)	HLFC	A 9	10 days
HLA Tissue Typing B	HLB	A 9	10 days
HLA Tissue Typing B*27 only	HLAB	A 9	3 days
HLA Tissue Typing B*51 (Behcet's Disease)	B51	A 9	10 days
HLA Tissue Typing B*57:01 high resolution	HL57	A 9	10 days
HLA Tissue Typing C	HLC	A 9	10 days
HLA Tissue Typing Coeliac Disease – DQ2/DQ8	Q2Q8	A 9	10 days
HLA Tissue Typing DRB1/3/4/5	DRB1	A 9	10 days
HLA Tissue Typing DRB1/3/4/5/ DQB1 (Class II)	HLDQ	A 9	10 days
HLA Tissue Typing Narcolepsy – DQB1*06:02	GENE	Requires patient informed consent A 9	4 weeks
Huntington Disease – HD gene repeat analysis PCR. Evidence of neurology counselling and genetic consent form is required.	GENE	Requires patient informed consent AA 9,11	6 weeks
Hyperinsulinism NGS Panel – full gene sequencing	GENE	Requires patient informed consent AA 9	9 weeks
Hyperparathyroidism – CASR sequencing	GENE	Requires patient informed consent A 9	8 weeks
Identity Profile (DNA) – 15 STR markers	DNAF	A 9,11	10 days

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TDL Genetics

	TEST	CODE	SAMPLE REQS	TAT
NEW	**IDH1/2 screening assay**	GENE	Requires patient informed consent (A)	48 hours
	IgVH mutation analysis for CLL	IGMU	(A)	4 weeks
	Incontinentia Pigmenti, X-linked – IKBKG/NEMO common mutation	GENE	Requires patient informed consent (A)[9]	4 weeks
	Intellectual Disability NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
	Intrahepatic Cholestasis NGS Panel – full sequencing ABCB11 + ABCB4 + ATP8P1	GENE	Requires patient informed consent (A)(A)[9]	9 weeks
	Iron Overload Profile	IOP	(A)(B)[9]	3 days
	JAK2 – exon 12 sequencing (rare mutations) – **MUST arrive in the laboratory within 48 hours, before 12pm on Fridays**	GENE	Requires patient informed consent (A)[9]	4 weeks
	JAK2 V617F genotyping assay	JAK2	(A)	2 weeks
	Jervell and Lange-Nielsen Syndrome – full sequencing KCNE1 + KCNQ1 genes	GENE	Requires patient informed consent (A)(A)[9]	9 weeks
	Joubert/Meckel-Gruber Syndrome NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)	6 weeks
	Kallmann Syndrome NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	9 weeks
	Kennedy Disease (Spinal Bulbar Muscular Atrophy) – AR repeat expansion	GENE	Requires patient informed consent (A)[9]	9 weeks
	Ketolysis Disorders NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	9 weeks
	Kidney/Urinary Tract Cancer NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A)[9,11]	6 weeks
	Krabbe Disease – GALC sequencing + 502T/del common deletion	GENE	Requires patient informed consent (A)[9]	6 weeks
NEW	**KRAS/NRAS screening assay**	GENE	Requires patient informed consent (A)	48 hours
	Lactose Intolerance Gene	LACG	(A)	2 weeks
	Langer-Giedion Syndrome – BOBs (5 days) + karyotype (15 days)	PBOB, KARY	**CVS / AF /** (A)(H)[9]	5-15 days
	Langer-Giedion Syndrome – BOBs only	PBOB	**CVS / AF /** (A)[9]	5 days
	Leber's Congenital Amaurosis NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	9 weeks
	Leber's Hereditary Optic Neuropathy – m.3460G>A + m.11778G>A + m.14484T>C common mutations	GENE	Requires patient informed consent (A)[9]	8 weeks
	Leigh Syndrome NGS Panel – full gene sequencing + deletions/duplications + mitochondrial DNA	GENE	Requires patient informed consent (A)(A)[9]	4 weeks

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TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
LEOPARD/Noonan/Cardio-Facio-Cutaneous/Costello Syndromes NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
Leukaemia Fusion Gene Screening Assay (Q30)	LMPX	(A)	24 hours
Li-Fraumeni Syndrome (p53-related cancer predisposition) – TP53 sequencing + MLPA	GENE	Requires patient informed consent (A)[9,11]	6 weeks
Limb-Girdle Muscular Dystrophy (LGMD) NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
Lissencephaly NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	8 weeks
Loeys-Dietz Syndrome/Marfan Syndrome/Aortopathy NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	9 weeks
Long-QT Syndrome/Brugada Syndrome – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	4 weeks
Lowe (Oculocerebrorenal) Syndrome – OCRL sequencing	GENE	Requires patient informed consent (A)[9]	6 weeks
Lung Disorders NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
Lynch Syndrome (HNPCC) NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A)[9,11]	4 weeks
Lysosomal Disorders NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	6 weeks
Male Genetic Reproductive Profile	GRP	(A)(H)[9]	10-15 days
Marfan Syndrome – FBN1 sequencing + deletions/duplications	GENE	Requires patient informed consent (A)[9]	5 weeks
Marfan Syndrome/Loeys-Dietz Syndrome/Aortopathy NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	9 weeks
Maturity-Onset Diabetes of the Young (MODY) Diabetes	GENE	Requires patient informed consent (A)	7 weeks
Meckel-Gruber/Joubert Syndrome NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)	6 weeks
Medium-Chain Acyl-CoA Dehydrogenase Deficiency – ACADM sequencing	GENE	Requires patient informed consent (A)[9]	5 weeks
Melanoma NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A)[9,11]	6 weeks
Microdeletion (common) Syndromes – BOBs only	PBOB	**CVS** / **AF** / (A)[9]	5 days
Microphthalmia/Anophthalmia/Coloboma NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9]	9 weeks

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TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
Miller-Dieker Syndrome – BOBs (5 days) + karyotype (15 days)	PBOB, KARY	**CVS** / **AF** / (A) (H) [9]	5-15 days
Miller-Dieker Syndrome – BOBs only	PBOB	**CVS** / **AF** / (A) [9]	5 days
Mitochondrial genome – full mitochondrial DNA sequencing + deletions	GENE	Requires patient informed consent (A) [9]	6 weeks
Mitochondrial genome sequencing	GENE	Requires patient informed consent (A) [9]	6 weeks
Motor Neurone Disease (Amylotrophic Lateral Sclerosis) NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A) (A) [9]	8 weeks
MPL exon 10 analysis	MPL	(A)	2 weeks
MTHFR – common C677T + A1298C mutations	MTHF	(A) [9]	5 days
Mucopolysaccharidosis NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A) (A) [9]	9 weeks
Multiple Endocrine Neoplasia Type 1 – full MEN1 sequencing	GENE	Requires patient informed consent (A) [9,11]	9 weeks
Multiple Endocrine Neoplasia Type 2 – RET gene hotspot sequencing	GENE	Requires patient informed consent (A) [9,11]	8 weeks
Myotonic Dystrophy Type 1 – DMPK repeat PCR	GENE	Requires patient informed consent (A) [9]	6 weeks
Myotonic Dystrophy Type 2 (PROMM) – ZNF9 repeat PCR	GENE	Requires patient informed consent (A) [9]	6 weeks
Narcolepsy (HLA DQB1*06:02)	GENE	Requires patient informed consent (A) [9]	4 weeks
Nephrotic Syndrome, Steroid-Resistant NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A) (A) [9]	6 weeks
Nervous System/Brain Cancer NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A) (A) [9,11]	5 weeks
Neurofibromatosis Type 1 – NF1 + SPRED1 sequencing + deletions/ duplications – *Contact lab prior to sending*	GENE	Requires patient informed consent (A) (A) [9,11]	8 weeks
Neurofibromatosis Type 2 (Bilateral Acoustic) – NF2 sequencing + deletions/duplications	GENE	Requires patient informed consent (A) [9]	8 weeks
Neuronal Ceroid Lipofuscinosis (Batten Disease) NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A) (A) [9]	9 weeks
Non-Invasive Prenatal Testing – common aneuploidy screening from maternal blood	NIPT	**J** / **Special tubes** [1]	3-5 days
Noonan Syndrome Prenatal Screening – PTPN11 exons 3 & 8 only	GENE	Requires patient informed consent **CVS** / **AF**	2 weeks

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TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
Noonan/LEOPARD/Cardio-Facio-Cutaneous/Costello Syndromes NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	6 weeks
NPM1 mutascreen assay	NPM1	(A)	24 hours
Nystagmus, X-linked Infantile – FRMD7 gene sequencing	GENE	Requires patient informed consent (A) [9]	7 weeks
Oculocutaneous Albinism/Hermansky-Pudlak Syndrome/Pigmentation NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	5 weeks
Oculopharyngeal Muscular Dystrophy – PABPN1 repeat analysis	GENE	Requires patient informed consent (A) [9]	5 weeks
Optic Atrophy NGS Panel – full sequencing OPA1 + OPA3 genes	GENE	Requires patient informed consent (A)(A) [9]	6 weeks
Osteogenesis Imperfecta NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	7 weeks
Ovarian Cancer NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A) [9,11]	6 weeks
p53-related cancer predisposition (Li-Fraumeni Syndrome) – TP53 sequencing + MLPA	GENE	Requires patient informed consent (A) [9,11]	6 weeks
Pancreatic Cancer NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A) [9,11]	4 weeks
Paraganglioma/Pheochromocytoma NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A) [9,11]	4 weeks
Paternity Testing (postnatal and prenatal) – sample required from each person being tested (3 people)	PATT	(A) / **AF** / **CVS** [9,11,12] **Contact lab**	5 days
Pelizaeus-Merzbacher Disease – PLP1 sequencing + deletions/duplications	GENE	Requires patient informed consent (A) [9]	8 weeks
Pendred Syndrome – SLC26A4 gene sequencing	GENE	Requires patient informed consent (A) [9]	6 weeks
Periodic Fever/Autoinflammation NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	9 weeks
Peutz-Jegher Syndrome – STK11 sequencing + deletions/duplications	GENE	Requires patient informed consent (A) [9]	5 weeks
Phelan-McDermid Syndrome – karyotype + FISH	KARY, FISH	**CVS** / **AF** / (H) [9]	12-17 days
Pheochromocytoma/Paraganglioma NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A) [9,11]	4 weeks
Pigmentation/Oculocutaneous Albinism/ Hermansky-Pudlak Syndrome NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	5 weeks

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TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
POLG-Related Disorders – full POLG sequencing + copy number variant	GENE	Requires patient informed consent (A) [9]	6 weeks
Polycystic Kidney/NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	6 weeks
Pontocerebellar Hypoplasia NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	6 weeks
Postnatal array CGH	CGH	(A)(H) [9]	10 days
Prader-Willi Syndrome (Primary Screen) – methylation PCR	PWAM	(A) [9]	10 days
Prenatal array CGH	CGH	**Amniotic fluid** or **CVS** [9]	10 days
Prenatal Diagnosis (BOBs + Culture)	ABK or CBK	**AF** / **CVS** [9]	3-5 days, 15 days
Prenatal Diagnosis for haemoglobinopathies	PND	**CVS** / **Amniocentesis** / **fetal blood**	3 days
Pre-Travel Screen (DVT)	DVT1	(A)(A)(B) [9]	5 days
Primary Ciliary Dyskinesia (PCD) NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	6 weeks
Primary Hyperoxaluria Panel – full gene sequencing + CNV	GENE	Requires patient informed consent (A)	6 weeks
Products of Conception – rapid BOBs aneuploidy diagnosis for all chromosomes (5 days) + culture (25 days)	PBK	**Placental Sample** [1,9]	5-25 days
Products of Conception (BOBs + Culture)	PBK	**Placental Sample** [1,9]	5-25 days
Products of Conception BOBs only – rapid aneuploidy diagnosis for all chromosomes	KBOB	**Placental Sample** or **Solid Tissue** [1,9]	3-6 days
Prostate Cancer NGS Panel – full sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A) [9,11]	4 weeks
Protein C Deficiency – PROC Gene Variant Analysis (Known Genotype)	PCMA	(A)(A) (Whole blood 10ml) [40]	6 weeks
Protein C Deficiency – PROC Gene Variant Analysis (Unknown Genotype)	PCMA	(A)(A) (Whole blood 10ml) [40]	12 weeks
Pseudoachondroplasia (Multiple Epiphyseal Dysplasia) – COMP hotspot sequencing	GENE	Requires patient informed consent (A) [9]	9 weeks
PTEN-related disorders (including Bannayan-Riley-Ruvalcaba, Cowden & Proteus Syndromes) – sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A) [9,11]	8 weeks
QF-PCR rapid common aneuploidy screen	APC	**AF** / (A) [9]	1-2 days
Recurrent Fever Screening	GENE	Requires patient informed consent (A)(A)	10 weeks
Recurrent Miscarriage Profile (female)	RMP	(A)(A)(B)(C)(C)(C)(H) [9,18]	10-15 days

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TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
Renal Cysts and Diabetes (RCAD) – HNF-1β sequencing + deletions/duplications	GENE	Requires patient informed consent (A) [9]	9 weeks
Renal/Urinary Tract Cancer NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A) [9,11]	5 weeks
Retinal Dystrophy/NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	6 weeks
Retinoblastoma – RB1 sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A) [9,11]	9 weeks
Rett Syndrome (MECP2 gene only) – full sequencing + deletions/duplications	GENE	Requires patient informed consent (A) [9,11]	9 weeks
Rett/Angelman Syndromes NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	6 weeks
Sarcoma NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A)(A) [9,11]	4 weeks
Short-Chain Acyl-CoA Dehydrogenase Deficiency – ACADS sequencing	GENE	Requires patient informed consent (A) [9]	5 weeks
Short Stature – SHOX mutation screening + deletions/duplications	GENE	Requires patient informed consent (A) [9]	9 weeks
Silver-Russell Syndrome – methylation studies on 11p15 imprinting domains KvDMR + H19	GENE	Requires patient informed consent (A) [9]	9 weeks
Skeletal Dysplasia NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	6 weeks
Smith-Lemli-Opitz Syndrome – DHCR7 sequencing	GENE	Requires patient informed consent (A) [9]	9 weeks
Smith-Magenis Syndrome – BOBs (5 days) + karyotype (15 days)	PBOB, KARY	**CVS / AF /** (A)(H) [9]	5-15 days
Smith-Magenis Syndrome – BoBs only	PBOB	**CVS / AF /** (A) [9]	5 days
Sotos Syndrome (Cerebral Gigantism) – NSD1 sequencing + deletions/duplications	GENE	Requires patient informed consent (A) [9]	5 weeks
Spastic Paraplegia NGS Panel – full gene sequencing + deletions/duplications + mitochondrial DNA	GENE	Requires patient informed consent (A)(A) [9]	9 weeks
Spinal Bulbar Muscular Atrophy (Kennedy Disease) – AR repeat analysis	GENE	Requires patient informed consent (A) [9]	9 weeks
Spinal Muscular Atrophy – SMN1 deletions/duplications	SMA	(A) [9]	10 days
Spinocerebellar Ataxia – multiplex SCA1+2+3+6+7+17 common repeat expansions	GENE	Requires patient informed consent (A) [9]	9 weeks
SRY (Sex-determining Region Y)	SRY	(A) [9]	2 days
Stargardt/Macular Dystrophy NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A) [9]	7 weeks

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TDL Genetics

	TEST	CODE	SAMPLE REQS	TAT
	Stickler Syndrome NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A A)[9]	7 weeks
	Systemic mastocystosis – C-Kit common mutation (KIT D816V)	GENE	Requires patient informed consent (A)[9]	4 weeks
	T cell clonality assay (TCR beta and TCR gamma)	TCRA	(A) or **FFPE**	2 weeks
	Tay Sachs Screen – common mutations. See also Carrier Screen (Ashkenazi Jewish/Pan-Ethnic)	GENE	Requires patient informed consent (A)[9]	5 weeks
NEW	**Thrombosis Gene Panel (known familial variants)**	GENE	Requires patient informed consent (A A)	6 weeks
NEW	**Thrombosis Gene Panel (unknown familial variants)**	GENE	Requires patient informed consent (A A)	12 weeks
	Thrombotic Risk Profile	PROP	(A A B C C C)[18]	5 days
	Thyroid Cancer NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A A)[9,11]	4 weeks
	Torsion Dystonia (DYT1) – TOR1A common mutation c.904-906delGAG	GENE	Requires patient informed consent (A)[9]	7 weeks
	Treacher-Collins Syndrome NGS Panel – full sequencing POLR1C + POLR1D + TCOF1	GENE	Requires patient informed consent (A A)[9]	9 weeks
	Tuberous Sclerosis – full TSC1 + TSC2 gene sequencing	GENE	Requires patient informed consent (A A)[9]	5 weeks
	Uni Parental Disomy (UPD) – parents and child – Specify chromosome	Specify type	(A)[9,12]	5 days
	Urinary Tract/Renal Cancer NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent (A A)[9,11]	5 weeks
	Usher Syndrome NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A A)[9]	7 weeks
	Very Long-Chain Acyl-CoA Dehydrogenase Deficiency – ACADVL sequencing	GENE	Requires patient informed consent (A)[9]	6 weeks
	Von Hippel-Lindau Syndrome – VHL sequencing + deletions/duplications	GENE	Requires patient informed consent (A)[9]	9 weeks
	Von Willebrands Disease – Type 2 (Ex28) Variant Analysis (VWF) (Known Genotype)	VW2A	(A A) (Whole blood 10ml)[40]	6 weeks
	Von Willebrands Disease – Type 2 (Ex28) Variant Analysis (VWF) (Unknown Genotype)	VW2A	(A A) (Whole blood 10ml)[40]	12 weeks
	Von Willebrands Disease – Type 2 VWD Variant Analysis (VWF) (Known Genotype)	2AVW	(A A) (Whole blood 10ml)[40]	6 weeks
	Von Willebrands Disease – Type 2 VWD Variant Analysis (VWF) (Unknown Genotype)	2AVW	(A A) (Whole blood 10ml)[40]	12 weeks

Always provide Clinical Details and Family History with requests for Genetic Tests.

Key: See page 23 for sample-taking and special handling instructions.

TDL Genetics

TEST	CODE	SAMPLE REQS	TAT
Von Willebrands Disease – Type 2N Variant Analysis (VWF) (Known Genotype)	VW2N	A A (Whole blood 10ml)[40]	6 weeks
Von Willebrands Disease – Type 2N Variant Analysis (VWF) (Unknown Genotype)	VW2N	A A (Whole blood 10ml)[40]	12 weeks
Wolf-Hirschhorn Syndrome – BOBs (5 days) + karyotype (15 days)	PBOB, KARY	**CVS** / **AF** / A H [9]	5-15 days
Wolf-Hirschhorn Syndrome – BOBs only	PBOB	**CVS** / **AF** / A [9]	5 days
Y chromosome microdeletions – AZFa + AZFb + AZFc + SRY	YDEL	A [9]	5 days
Zellweger Syndrome NGS Panel – full gene sequencing	GENE	Requires patient informed consent A A [9]	9 weeks
Zygosity testing – comparative DNA profile	DNAC	A (From each twin and both parents)[9]	5 days

Always provide Clinical Details and Family History with requests for Genetic Tests.
Turnaround times are quoted as working days.

TDL Genetics

ARRAY CGH TESTING

Chromosome abnormalities can be associated with developmental delay, autism spectrum disorder, learning difficulties, dysmorphic features and other congenital abnormalities.

Array CGH can detect smaller genetic changes than is possible by conventional karyotyping, and can provide accurate information on the size and possible consequences of the gains (duplications) or losses (deletions) identified. Multiple studies have shown that Array CGH, when applied to appropriate patients, will detect up to three times more pathogenic chromosome imbalances than karyotyping due to its greater precision and sensitivity.

Array CGH testing is now considered to be the front line test for patients presenting with developmental delay (motor or growth), autism spectrum disorder, moderate to severe learning difficulties, dysmorphic features, with or without congenital abnormalities. Consortiums in the USA and many EU countries have adopted Array CGH as the front line test in this patient cohort.

Array CGH is now more frequently used for prenatal studies as an adjunct or replacement for conventional cytogenetic studies, particularly where structural fetal abnormalities are seen at ultrasound scan but also at a patient's or doctor's request. The technique may also be utilised as a follow up test to characterise anomalies detected by a previous study (e.g. an apparently balanced de novo rearrangement or marker chromosome).

When to use Array CGH

In postnatal cases, patients should present with one or more of the following:

- Mental retardation
- Autism/autism spectrum disorder
- Congenital malformations
- Developmental delay
- Dysmorphic features

In prenatal cases, patients may present with:

- Abnormalities or increased nuchal translucency on ultrasound scan which may be associated with a chromosome imbalance.

Approximately 10-20% of results identify extra or missing DNA which may or may not be relevant to the clinical phenotype, and will require further family studies to assist with interpretation.

What can Array CGH detect?

Deletions and duplications with greater sensitivity than conventional karyotyping.

What does Array CGH not detect?

- Balanced chromosome rearrangements such as translocations or inversions. The chromosome location of duplications (this would require additional FISH testing).
- Low frequency mosaicism (<30% abnormal cells), some types of polyploidy like triploidy, Uniparental disomy (UPD) and Fragile X syndrome, imprinting defects, genetic diseases caused by point mutations or multifactorial inheritance.

Further information is provided by the UNIQUE website at www.rarechromo.org

TEST	CODE	SAMPLE REQS	TAT
Postnatal array CGH	CGH	A H [9]	10 days

Blood from both parents may also be provided in case of follow up studies at no extra charge.

TEST	CODE	SAMPLE REQS	TAT
Prenatal array CGH	CGH	**Amniotic fluid** or **CVS** [9]	10 days

EDTA and heparin blood from both parents should be provided at the time of prenatal sampling, if possible, in case of follow up studies at no extra charge.

Always provide Clinical Details and Family History with requests for Genetic Tests.

Key: See page 23 for sample-taking and special handling instructions.

TDL Genetics

PAN-ETHNIC CARRIER SCREENING

The Fulgent Beacon carrier panel is a comprehensive genetic screen for people of all ethnic backgrounds. The panel analyses more than 400 genes, in which mutations may cause over 440 different recessive disorders. Testing includes Cystic Fibrosis, Sickle Cell Disease, Thalassemia and Spinal Muscular Atrophy. These conditions vary in morbidity, mortality and treatment.

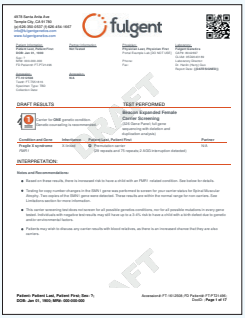
The Beacon carrier screen can also be filtered to report only on diseases common to the Jewish population – such as Bloom Syndrome, Canavan Disease, Gaucher Syndrome and Tay-Sachs Disease.

Indications for use

- Pre-pregnancy screening for couples that wish to check if they are silent carriers for a disease that would have serious implications for the future health of any children.
- For patients who are concerned about a family history of a particular disease, where common mutation detections are very high – such as Tay-Sachs Disease.

The report comes with a synopsis of any diseases for which a mutations was found, including prognosis, treatment and mode of inheritance. It includes a risk assessment and recommendations for further testing.

A full list of diseases covered by this test is available from the laboratory.



Male patients will not be screened for X-linked conditions. If an X-linked condition is suspected in a male patient please contact the laboratory or a genetics specialist about diagnostic testing for that particular condition.

Limitations

A normal result does not rule out the possibility that the patient carries a rare mutation not detectible by this particular assay. For this reason, this test is also not appropriate to use as a direct prenatal screen (both parents must be confirmed carriers for a particular disease before we can offer prenatal diagnosis). Screening is not designed to detect somatic mutations.

TEST	CODE	SAMPLE REQS	TAT
Carrier Screen (Ashkenazi Jewish)	GENE	Requires patient informed consent A 9	4 weeks
Carrier Screen (Ashkenazi Jewish) – Partnered Report – Please contact the lab for special requirements before sending	GENE	Requires patient informed consent A 9	4 weeks
Carrier Screen (Pan-Ethnic)	GENE	Requires patient informed consent A 9	4 weeks
Carrier Screen (Pan-Ethnic) – Partnered Report – Please contact the lab for special requirements before sending	GENE	Requires patient informed consent A 9	4 weeks

Always provide Clinical Details and Family History with requests for Genetic Tests.
Turnaround times are quoted as working days.

harmony®

NON-INVASIVE PRENATAL TESTING (NIPT)

The Harmony test is a cell-free DNA-based prenatal blood screen. It is being used in more than 100 countries around the world, and has been used to guide clinical care in over 1.4 million pregnancies. The test can be used in singleton, twin, and egg-donor pregnancies and has been validated for use in pregnant women aged 16 to 48. It can be administered as early as 10 weeks gestation.

The test can screen for:

- Trisomies 21, 18, and 13
- Sex chromosome aneuploidy
- Monosomy X
- Fetal sex

Patient information

Non-invasive prenatal testing (NIPT) analyses cell-free DNA circulating in a pregnant mother's blood. It is used screen for Down syndrome (trisomy 21) and other common chromosomal conditions (trisomies 18 and 13). Options are also available to screen for X and Y chromosome conditions.

About the test

DNA from the fetus circulates in the mother's blood. Cell-free DNA (cfDNA) results from the natural breakdown of fetal cells (presumed to be mostly placental) and clears from the maternal system within hours of giving birth.

During a pregnancy, cfDNA can be tested to give the most accurate screening approach in estimating the risk of a fetus having a common chromosome condition sometimes called a trisomy. This occurs when there are three copies of a particular chromosome instead of the expected two. The test looks to detect the following conditions:

- **Trisomy 21** is the most common trisomy at the time of birth. Also called Down syndrome, it is associated with moderate to severe intellectual disabilities and may also lead to digestive disease, congenital heart defects and other malformations.
- **Trisomy 18** (Edwards syndrome) and **Trisomy 13** (Patau syndrome) are associated with a high rate of miscarriage. These babies are born with severe brain abnormalities and often have congenital heart defects as well as other birth defects. Most affected individuals die before or soon after birth, and very few survive beyond the first year of life.
- **Sex chromosome conditions** occur when there is a missing, extra, or incomplete copy of the X or Y chromosomes. The Harmony test with sex chromosome aneuploidy panel option can assess risk for XXX, XYY, XXYY, XXY (Klinefelter syndrome), and a missing X chromosome in a girl (Turner syndrome).

An option is also available to look for Turner syndrome only (and not the other sex chromosome conditions). If the mother is interested in having this optional testing, she should talk with her healthcare provider to determine if it is right for her. This option is not available for twin pregnancies.

Risk

The testing is non-invasive: it involves taking a blood sample from the mother. The pregnancy is not put at risk of miscarriage, or from other adverse outcomes that are associated with invasive testing procedures such as amniocentesis.

Accuracy

A 'high probability' result is indicative of a high probability for a trisomy. In singleton pregnancies, the test identifies more than 99% of fetuses with trisomy 21, 97% of fetuses with trisomy 18, 94% of fetuses with trisomy 13, and 96% of fetuses with Turner syndrome. X and Y analysis provides >99% accuracy for fetal sex. Accuracy for detecting other sex chromosome anomalies varies by condition.

After the test, less than 1% of women need to have a CVS or an amniocentesis procedure.

The Harmony test is considered a prenatal screening test, not a diagnostic test. So if the test results show there is a high risk of the fetus having trisomy 21, 18, 13 or a sex chromosome condition, it does not mean that the fetus definitely has one of these conditions – although it is highly likely. For this reason, in the event of a 'high risk' (or positive) result, follow-up testing by an invasive procedure is recommended.

TDL Genetics

In the same way, if the test results show a 'low probability' of the fetus having trisomy 21, 18, 13 or a sex chromosome condition, it is unlikely that the fetus has one of these conditions. However, there is a very small risk that not all trisomic fetuses will be detected.

Who can have this test?

The Harmony test can be ordered by healthcare professionals for women with pregnancies of at least 10 weeks' gestational age. This test can be requested for any singleton or twin pregnancy, including those conceived naturally or by IVF using the patient's own egg or a donor egg. Note that, in twin pregnancies, sex chromosome (X and Y) analysis can determine fetal sex but not sex chromosome conditions. The Harmony test also does not assess risk for mosaicism, partial trisomies or translocations.

Results will be ready in approximately 3-5 days. Women still can have their 12-week scan for a detailed examination of the fetal anatomy, including measurement of nuchal translucency, nasal bone and other important factors. In this visit, patients can discuss the DNA and ultrasound results with their obstetricians.

On the basis of the NIPT result and the ultrasound findings, a patient can decide whether or not she wants to have an invasive procedure (for example, CVS or amniocentesis).

Repeat samples

There needs to be enough fetal DNA in the maternal blood to be able to provide a result. If there is insufficient fetal DNA in the sample (which occurs in 3% of cases), another blood sample from the mother may be required. This will be processed in the laboratory at no extra charge.

What is the process?

Once the mother has taken an independent personal decision that she wants to have the NIPT performed, she will be asked to sign a consent form and her blood sample can be taken from a vein in her arm.

Who carries out the analysis of the test?

Her sample and completed request form need to be sent to TDL Genetics, where the Harmony test is performed on the DNA extracted from her blood sample.

Will the mother need to have any other tests?

The Harmony test does not provide information on mosaicism, partial trisomies or translocations, or other rare chromosomal abnormalities. If the ultrasound scan shows a high nuchal translucency or other major physical defects such as brain abnormalities, heart abnormalities, the risk for some rare chromosomal defects may be high. In such cases, the mother may choose to have a CVS or an amniocentesis.

The non-invasive prenatal test does not provide information on other physical defects such as spina bifida, or information on fetal growth. It is therefore advisable that the mother has all the usual ultrasound scans during her pregnancy.

Sample stability

Samples must be taken in special tubes provided by the laboratory. These samples must not be refrigerated, but stored at ambient temperature protected by the gel packs provided. The lab must receive the samples within 7 days to allow testing to proceed.

TEST	CODE	SAMPLE REQS	TAT
Non-Invasive Prenatal Testing – common aneuploidy screening from maternal blood	**NIPT**	Two 10ml tubes of maternal blood – special tubes provided by the laboratory	3-5 days

Always provide Clinical Details and Family History with requests for Genetic Tests.
Turnaround times are quoted as working days.

TDL Genetics

Always provide Clinical Details and Family History with requests for Genetic Tests.

Key: See page 23 for sample-taking and special handling instructions.

TDL Genetics

MALE GENETIC REPRODUCTIVE PROFILE

Chromosome Analysis
Y-Chromosome Microdeletions
Cystic Fibrosis Carrier Screen
(139 common mutations)
PolyT (5T,7T,9T) if clinically indicated

TAT 10-15 DAYS

GRP

A H [9]

CARRIER SCREEN (PAN-ETHNIC)

Targets 400+ Autosomal Recessive and X-linked Inherited Disorders**

** Male patients will not be screened for X-linked conditions (e.g., FMR1, etc.).

TAT 4 WEEKS

GENE

A [9]

RECURRENT MISCARRIAGE PROFILE (FEMALE)

FBC
Coagulation Profile
Antithrombin III
Factor V Leiden
Common Mutation
Factor II Prothrombin
Common Mutation
MTHFR Common Variants
Fibrinogen
Lupus Anticoagulant
Protein C
Free Protein S Ag
Anticardiolipin Abs
Chromosome Analysis

Please request Partner's Chromosome Analysis using a separate request form.

TAT 10-15 DAYS

RMP

A A B C C C H [9,18]

THROMBOTIC RISK PROFILE

FBC
Coagulation Profile
Antithrombin III
Factor V Leiden
Common Mutation
Factor II Prothrombin
Common Mutation
MTHFR Common Variants
Lupus Anticoagulant
Protein C
Free Protein S Ag
Anticardiolipin Abs

TAT 5 DAYS

PROP

A A B C C C [18]

CARRIER SCREEN (ASHKENAZI JEWISH)

This test is optimised for individuals and couples of Ashkenazi Jewish ancestry.**

Uses the same technology as the Carrier Screen (Pan-Ethnic).

** Male patients will not be screened for X-linked conditions (e.g., FMR1, etc.).

TAT 4 WEEKS

GENE

A [9]

PRENATAL DIAGNOSIS (BOBS + CULTURE)

Rapid Aneuploidy Diagnosis for all Chromosomes + Common Microdeletion Syndromes by BOBs Analysis

TAT 3-5 DAYS

Chromosome Analysis (Karyotype)

TAT 15 DAYS

ABK or CBK

AF / CVS [9]

PRE-TRAVEL (DVT) SCREEN

FBC
Anticardiolipin Antibodies
Factor II Prothrombin Mutation (G20210A)
Factor V Leiden Mutation (G1691A)

TAT 5 DAYS

DVT1

A A B [9]

IRON OVERLOAD PROFILE

Iron
Total Iron Binding Capacity
Ferritin
Transferrin Saturation
Haemochromatosis
C282Y, H63D

TAT 3 DAYS

IOP

A A B [9]

PRODUCTS OF CONCEPTION (BOBS + CULTURE)

Rapid Aneuploidy Diagnosis for all Chromosomes by BOBs Analysis

TAT 3-5 DAYS

Chromosome Analysis (Karyotype)

TAT 25 DAYS

PBK

Placental sample [1,9]

Always provide Clinical Details and Family History with requests for Genetic Tests.
Turnaround times are quoted as working days.

In-vivo tests

These tests, ideally, must be carried out by appointment. Please telephone 020 7307 7383 for details, information for patient preparation, and appointment times. Sample taking fees for Extended tests are charged at £98.00 per visit.

EXTENDED TESTING

- 50g liquid glucose is consumed for the glucose challenge test/Mini-GTT.
- 75g liquid glucose is consumed for all other glucose tests.
- Each sample tube must be labelled with time of collection.

GLUCOSE TOLERANCE TESTS

TEST	CODE	SAMPLE REQS	COLLECTION TIME (MINUTES POST-GLUCOSE)	TAT
Glucose Challenge Test/Mini-GTT	RBGM	G	1 at 60 mins (50gm glucose)	1 day
Glucose Tolerance Test/OGTT	GTT	3x G 3x **RU**	1 each at 0, 60 and 120 mins (75gm glucose load)	1 day
Glucose Tolerance with Insulin	GTTI	3x B 3x G 3x **RU**	1 each at 0, 60 and 120 mins	1 day
Glucose Tolerance with Growth Hormone	GTT + GHDF	3x B[35] 3x G 3x **RU**	1 each at 0, 60 and 120 mins	1 day
Glucose Tolerance Test (Short)	GTTS	2x G 2x **RU**	1 each at 0 and 120 mins	1 day
Glucose Tolerance Test (Extended)	GTTE	5x G 5x **RU**	1 each at 0, 30, 60, 90 and 120 mins	1 day
Glucose Tolerance Test (Extended Plus)	GTTX	7x G 7x **RU**	1 each at 0, 30, 60, 90, 120, 150 and 180 mins	1 day

EXTENDED TESTS

TEST	CODE	SAMPLE REQS	COLLECTION TIME (MINUTES POST-GLUCOSE)	TAT
Lactose Tolerance Test	LTT	By appointment only	Contact 020 7025 7997 (Phlebotomy)	1 day
Synacthen Stimulation Test	SYNA	By appointment only	Contact 020 7025 7997 (Phlebotomy)	1 day

ANTIBIOTIC ASSAYS

TEST	CODE	SAMPLE REQS	TAT
Amikacin Level (State dose)	AMIK	B[4]	4 hours
Gentamicin Assay	GENT	B[4]	4 hours
Metronidazole Level	METR	B[4]	7 days
Teicoplanin Assay	TEIC	B	5 days
Tobramycin Assay (Provide Clinical Details)	TOBR	B	3 days
Vancomycin Hydrochloride	VANC	B	4 hours

Key: See page 23 for sample-taking and special handling instructions.

Therapeutic drug assays

There are three different collection times for Therapeutic Drug Monitoring:

TROUGH LEVEL Blood should be collected just before the next dose. Trough Levels check that the appropriate drug concentration is being maintained.

PEAK LEVELS Sample collection time is dependent on specific drug type and method of administration. Peak levels check that the drug level is not in the toxic range.

SUSPECTED TOXICITY Blood can be collected any time.

All collections should have the following noted on the request form:

- Dosage schedule including the amount and frequency and time of the last dose
- Time of specimen collection
- Clinical status of patient (e.g. routine, suspected toxicity)
- Name(s) of other drugs being taken by the patient

TEST	CODE	SAMPLE REQS	TAT
Amitriptyline	AMTR	A [4]	5 days
Anafranil (Clomipramine)	CHLO	A	7 days
Carbamazepine (Tegretol)	CARB	B	4 hours
Clobazam	CLOB	A	5 days
Clomipramine (Anafranil)	CHLO	A	7 days
Clonazepam	CLON	A	7 days
Diazepam (Valium)	DIAZ	A	7 days
Digoxin	DIGO	B	4 hours
Epanutin (Phenytoin)	PHEN	B	4 hours
Erythropoietin	ERY	B	4 days
Ethosuximide	ETHO	A	7 days
FK506 (Tacrolimus/Prograf)	FK5	A [4]	1-2 days
Flecainide (Tambocor)	FLEC	A	5 days
Fluoxetine (Prozac)	PROZ	A [4]	5 days
Gabapentin	GABA	B [4]	5 days
Imipramine	IMIP	A [4]	4 days
Lamotrigine	LAMO	B [4]	5 days
Levetiracetam (Keppra)	LEVE	B [4]	3 days
Lithium (take 12 hours after dose)	LITH	B	4 hours
Lorazepam	LORA	A [4]	10 days
Methotrexate	METX	B	2 days
Mycophenolic Acid (Cellcept)	MYCP	A	5 days
Mysoline (Primidone)	PRIM	B [4]	3 days
Olanzapine	OLAN	A [4]	5 days
Paracetamol	PARA	B	4 hours
Phenobarbitone	PHB	B	4 hours
Phenytoin (Epanutin)	PHEN	B	4 hours
Primidone (Mysoline)	PRIM	B [4]	3 days

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

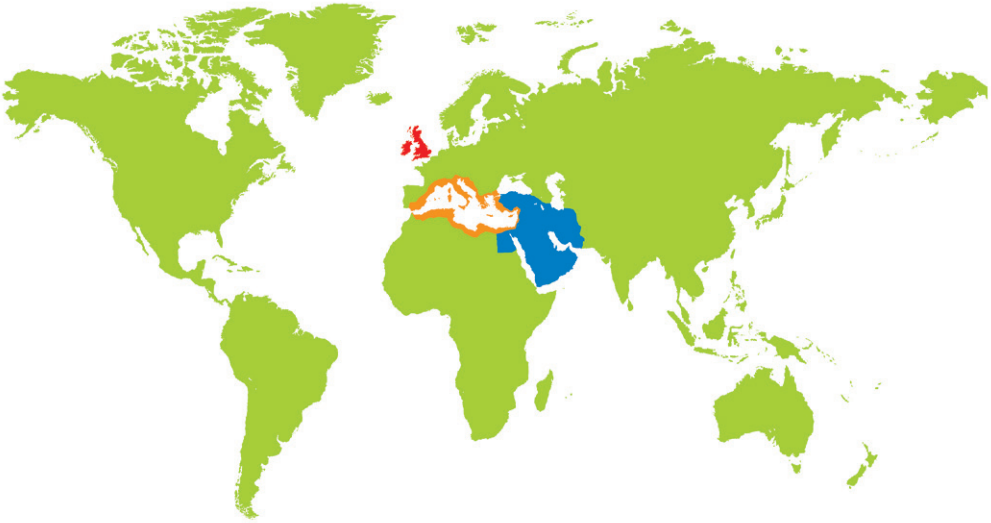
Therapeutic drug assays

TEST	CODE	SAMPLE REQS	TAT
Propanalol	PRO	B [4]	7 days
Risperidone	RISP	A [4]	7 days
Sinequan (Doxepin)	DOXE	A	10 days
Sirolimus	SIRO	A	3 days
Streptomycin Levels	STRM	F	5 days
Sulpiride	SULP	B [4]	4 days
Tacrolimus/Prograf (FK506)	FK5	A [4]	1-2 days
Tegretol (Carbamazepine)	CARB	B	4 hours
Temazepam	TEMA	B [4]	4 days
Theophylline	THEO	B	4 hours
Topiramate (Topamax)	TOPI	B [4]	4 days
Trimipramine	TRIM	A	5 days
Valium (Diazepam)	DIAZ	A	7 days
Valproic Acid (Epilim)	VALP	B	4 hours
Vigabatrin (Sabril)	VIGA	A	10 days

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Allergy

Allergy, Asthma and Autoimmune diseases are increasing around the world, especially in industrialised countries and affect all ages. Since every country has their own dietary habits there are noteworthy differences in the allergens causing food allergy.



UK PROFILE

Total IgE plus:

Food Mix inc.
Cod, Cow's Milk, Egg White, Soya Bean, Peanut, Wheat

Grass Mix inc.
Cocksfoot, Meadow Fescue, Meadow, Rye, Timothy

Fish: Cod

Cat Dander
Cladosporium Herbarum
Dog Dander
House Dust Mite
Latex

TAT 2 DAYS

ALUK

B

MEDITERRANEAN PROFILE

Total IgE plus:

A. alternata
Cat Epithelium and Dander
Cow's Milk
Egg White
House Dust Mite (Dermatophagoides pteronyssinus and Dermatophagoides farinae)
Olive
Peanut
Rye-grass
Timothy Grass

TAT 2 DAYS

ALMD

B

MIDDLE EAST PROFILE

Total IgE plus:

Food Mix inc.
Cod, Cow's Milk, Egg White, Soya Bean, Peanut, Wheat

Fish: Cod

Dust Mix inc.
House Dust Mite, Dermatophagoides pteronyssinus, Dermatophagoides farinae, Blatella germanica

TAT 2 DAYS

ALME

B

Allergy

TEST	CODE	SAMPLE REQS	TAT
Allergy – Individual Allergens (see list on page 141)	ALLE	B	2 days
Total IgE	IGE	B	1 day
Allergy Profile (Mediterranean)	ALMD	B	2 days
Allergy Profile (Middle East)	ALME	B	2 days
Allergy Profile (UK)	ALUK	B	2 days
Allergy Profile 1 (Food & Inhalants)	1A	B B	2 days
Allergy Profile 2 (Inhalants)	2A	B	2 days
Allergy Profile 3 (Food)	3A	B	2 days
Allergy Profile 4 (Nuts & Seeds)	4A	B	2 days
Allergy Profile 5 (Children's Panel)	5A	B	2 days
Allergy Profile 6 (Shellfish)	6A	B	2 days
Allergy Profile 7 (Finfish)	7A	B	2 days
Allergy Profile 8 (Cereal – singles)	8A	B	2 days
Allergy Profile 9 (Antibiotics)	9A	B	2 days
Allergy Profile 10 (Insects)	10A	B	2 days
Allergy Profile 11 (Combined Shellfish/Finfish)	11A	B	2 days
Allergy Profile 12 (Milk & Milk Proteins)	12A	B	2 days
Allergy Profile 13 (Stone fruit/Rosaceae family)	13A	B	2 days
Eczema Provoking Profile	ALEC	B	2 days
Gluten Allergy Profile	GLUT	A B B	10 days
Rhinitis Provoking Profile	ALRN	B	2 days
Tryptase	STRY	B	2 days
Allergen Component Profiles (see page 145)			
Histamine Releasing Urticaria Test	CURT	B	3 weeks
ISAC Panel	ISAC	B	3 days
Prealbumin	PALB	B	3 days

ECZEMA PROVOKING PROFILE (9 Allergens)

Total IgE with individual IgE allergens for:

- Cat Dander
- Egg White
- Egg Yolk
- Fish Mix
- Hazelnut
- House Dust Mite
- Milk
- Peanut
- Soya Bean
- Wheat

TAT 2 DAYS

ALEC

B

RHINITIS PROVOKING PROFILE (10 Allergens)

Total IgE with individual IgE allergens for:

- Birch
- Cat Dander
- Dog Dander
- Egg White
- Egg Yolk
- House Dust Mite
- Milk
- Nettle
- Peanut
- Timothy Grass

TAT 2 DAYS

ALRN

B

GLUTEN ALLERGY PROFILE

- Gluten single IgE Allergen
- Endomysial Antibodies IgA
- Deamidated Gliadin IgG Antibodies
- Tissue Transglutaminase IgA
- HLA DQ2/DQ8
- Total IgA

TAT 10 DAYS

GLUT

A B B

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Allergy

IgE ALLERGY PROFILE 1 (Food and inhalants)

Total IgE with individual IgE allergens for:

Grass Mix, inc.
Cocksfoot
Meadow Fescue
Meadow
Rye
Timothy

Weed Mix, inc.
Common Ragweed
Giant Ragweed
Western Ragweed

Dust Mix, inc.
Blatella germanica
Dermatophagoides pteronyssinus
Dermatophagoides farinae
Hollister-Stier Labs

Mould Mix, inc.
A. alternata
Aspergillus fumigatus
Candida albicans
Cladosporium herbarum
Helminthosporium halodes
Penicillium notatum

Tree Mix, inc.
Box Elder
Common Silverbirch
Hazel
Oak
London Plane
Maple
Sycamore

Single Allergens (19)
Beef
Bermuda Grass
Cat Dander
Clam
Common Silver Birch
Cow's Milk
Crab
Dog Dander
Egg White
Egg Yolk
Fish (Cod)
Hazel Nut
Horse Dander
Latex
Nettle
Peanut
Shrimp/Prawn
Soya Bean
Wheat

TAT 2 DAYS

1A

B B

IgE ALLERGY PROFILE 2 (Inhalants)

Total IgE with individual IgE allergens for:

Alternaria
Aspergillus
Birch Pollen
Cat Dander
Cladosporium
Common Ragweed
Derma farinae
Dog Dander
House Dust Mite
Horse Dander
Timothy Grass

TAT 2 DAYS

2A

B

IgE ALLERGY PROFILE 3 (Food)

Total IgE with individual IgE allergens for:

Codfish
Cow's Milk
Egg White
Egg Yolk
Kiwi
Peanut
Sesame
Soya
Wheat

TAT 2 DAYS

3A

B

IgE ALLERGY PROFILE 4 (Nuts and Seeds)

Total IgE with individual IgE allergens for:

Almond
Brazil Nut
Cashew
Hazel Nut
Macadamia Nut
Peanut
Pecan
Pine Nut
Pistachio
Poppy Seed
Pumpkin Seed
Sesame Seed
Sunflower Seed
Walnut

TAT 2 DAYS

4A

B

IgE ALLERGY PROFILE 5 (Children's Panel)

Total IgE with individual IgE allergens for:

Cat Dander
Cow's Milk
Egg White
Egg Yolk
Mite, Pteronyssinus
Peanut
Soya Bean
Timothy Grass
Wheat Flour

TAT 2 DAYS

5A

B

IMMUNOCAP ISAC PANEL

Simultaneous measurement in a single test of specific antibodies to more than one hundred allergen components from more than 50 preselected allergen sources.

TAT 3 DAYS

ISAC

B

Allergy

IgE ALLERGY PROFILE 6 (Shellfish)

Total IgE with individual IgE allergens for:

Clam
Crab
Crawfish/Crayfish
Lobster
Octopus
Prawns/Shrimp
Scallop
Squid

TAT 2 DAYS

6A

B

IgE ALLERGY PROFILE 7 (Finfish)

Total IgE with individual IgE allergens for:

Codfish
Mackerel
Plaice
Sardine/Pilchard
Salmon
Sole
Swordfish
Tuna

TAT 2 DAYS

7A

B

IgE ALLERGY PROFILE 8 (Cereal – singles)

Total IgE with individual IgE allergens for:

Barley
Oat
Rye
Wheat

TAT 2 DAYS

8A

B

IgE ALLERGY PROFILE 9 (Antibiotics)

Total IgE with individual IgE allergens for:

Cefaclor
Pen G
Pen V

TAT 2 DAYS

9A

B

IgE ALLERGY PROFILE 10 (Insects)

Total IgE with individual IgE allergens for:

Common Wasp – Yellow Jacket
Bee
Paper Wasp
Yellow Hornet
White Faced Hornet

TAT 2 DAYS

10A

B

IgE ALLERGY PROFILE 11 (Combined Shellfish/Finfish)

Total IgE with individual IgE allergens for:

Cod
Prawn/Shrimp
Salmon
Scallop
Squid
Tuna

TAT 2 DAYS

11A

B

IgE ALLERGY PROFILE 12 (Milk & Milk Proteins)

Total IgE with individual IgE allergens for:

Alpha-lactalbumin – milk proteins
Beta-lactoglobulin – milk proteins
Casein – milk proteins
Cow's Milk
Goat's Milk
Mare's Milk
Sheep's Milk
Whey (cow and ewe)

TAT 2 DAYS

12A

B

IgE ALLERGY PROFILE 13 (Stone Fruit, Rosaceae family)

Total IgE with individual IgE allergens for:

Almond
Apple
Apricot
Cherry
Peach
Pear
Plum
Raspberry
Strawberry

TAT 2 DAYS

13A

B

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Allergy

Allergens, when requested individually are priced as single tests, sample 1 x B (up to 5 allergens).

Protein allergens are manufactured by Thermofisher (Phadia) and are IgE specific.

GRASS POLLENS
Bahia grass g17
Barley g201
Bermuda grass g2
Brome grass g11
Canary grass g71
Cocksfoot g3
Common reed g7
Cultivated oat g14
Cultivated rye g12
Cultivated wheat g15
Johnson grass g10
Maize, Corn g202
Meadow fescue g4
Meadow foxtail g16
Meadow grass, Kentucky blue g8
Redtop, Bentgrass g9
Rye-grass g5
Sweet vernal grass g1
Timothy grass g6
Velvet grass g13
Wild rye grass g70

WEED POLLENS
Alfalfa w45
Camomile w206
Careless weed w82
Cocklebur w13
Common pigweed w14
Common ragweed w1
Dandelion w8
Dog fennel w46
False ragweed w4
Firebush (Kochia) w17
Giant ragweed w3
Goldenrod w12
Goosefoot, Lamb's quarters w10
Japanese Hop w22
Lupin w207
Marguerite, Ox-eye daisy w7
Mugwort w6
Nettle w20
Parietaria officinalis w19
Parietaria judaica w21
Plantain (English), Ribwort w9
Rape w203
Rough marshelder w16
Saltwort (prickly), Russian thistle w11
Scale, Lenscale w15
Sheep sorrel w18
Sunflower w204
Wall pellitory w19
Wall pellitory w21
Western ragweed w2
Wormwood w5
Yellow dock w23

TREE POLLENS
Acacia t19
American beech t5
Australian pine t73
Bald cypress t37
Bayberry t56
Box-elder t1
Cedar t212
Cedar elm t45
Chestnut t206
Common silver birch t3
Cottonwood t14
Cypress t222
Date t214
Douglas fir t207
Elder t205
Elm t8
Eucalyptus, Gum-tree t18
European ash t25
Grey alder t2
Hackberry t44
Hazel t4
Horn beam t209
Horse chestnut t203
Italian/Mediterranean/ Funeral cypress t23
Japanese cedar t17
Linden t208
Maple leaf sycamore, London plane t11
Melaleuca, Cajeput-tree t21
Mesquite t20
Mountain juniper t6
Mulberry t70
Oak t7
Oil Palm t223
Olive t9
Paloverde t219
Pecan, Hickory t22
Peppertree t217
Pine t213
Privet t210
Queen palm t72
Red cedar t57
Red mulberry t71
Scotch broom t55
Spruce t201
Sweet gum t211
Walnut t10
White ash t15
White hickory t41
White pine t16
Willow t12
Virginia live oak t218

MICROORGANISMS
Acremonium kiliense m202
Alternaria alternata m6
Aspergillus flavus m228
Aspergillus fumigatus m3
Aspergillus niger m207
Aspergillus terreus m36
Aureobasidium pullulans m12
Botrytis cinerea m7
Candida albicans m5
Chaetomium globosum m208
Cladosporium herbarum m2
Curvularia lunata m16
Epicoccum purpurascens m14
Fusarium proliferatum (F. moniliforme) m9
Setomelanomma rostrata (Helminthosporium halodes) m8
Malassezia spp. m227
Mucor racemosus m4
Penicillium chrysogenum (P. notatum) m1
Penicillium glabrum m209

Allergy

Phoma betae m13
Rhizopus nigricans m11
Staphylococcal enterotoxin A m80
Staphylococcal enterotoxin B m81
Staphylococcal enterotoxin C m223
Staphylococcal enterotoxin TSST m226
Stemphylium herbarum (S. botryosum) m10
Tilletia tritici m201
Trichoderma viride m15
Trichophyton mentagrophytes var. goetzii m210
Trichophyton mentagrophytes var. interdigitale m211
Trichophyton rubrum m205
Ulocladium chartarum m204

EPIDERMALS AND ANIMAL PROTEINS

Budgerigar droppings e77
Budgerigar feathers e78
Camel dander u328
Canary bird droppings e200
Canary bird feathers e201
Cat dander e1
Chicken droppings e218
Chicken feathers e85
Chicken, serum proteins e219
Chinchilla epithelium e208
Cow dander e4
Deer epithelium e216
Dog dander e5
Duck feathers e86
Ferret epithelium e217
Finch feathers e214
Fox epithelium e210
Gerbil epithelium e209
Goat epithelium e80
Goose feathers e70
Guinea pig epithelium e6
Hamster epithelium e84
Horse dander e3
Mink epithelium e203
Mouse epithelium e71
Mouse epithelium, serum proteins and urine proteins e88
Mouse serum proteins e76
Mouse urine proteins e72
Parakeet droppings e197
Parakeet serum e198
Parrot feathers e213
Pigeon feathers e215
Rabbit epithelium e82
Rabbit, serum proteins e206
Rabbit, urine proteins e211
Rat epithelium e73
Rat epithelium, serum proteins and urine proteins e87
Rat serum proteins e75
Rat urine proteins e74
Reindeer epithelium e202
Sheep epithelium e81
Swine epithelium e83
Turkey feathers e89

MITES

Acarus siro (Storage mite) d70
Blomia tropicalis (House dust mite) d201
Dermatophagoides farinae (House dust mite) d2
Dermatophagoides microceras (House dust mite) d3
Dermatophagoides pteronyssinus (House dust mite) d1
Euroglyphus maynei (House dust mite) d74
Glycyphagus domesticus (Storage mite) d73
Lepidoglyphus destructor (Storage mite) d71
Tyrophagus putrescentiae (Storage mite) d72

ALLERGEN COMPONENTS

See page 145 for Component Testing and Component Allergen Profiles

HOUSE DUST

Greer Labs., Inc. h1
Hollister-Stier Labs. h2

INSECTS

Berlin beetle i76
Blood worm i73
Cockroach, American i206
Cockroach, German i6
Fire ant i70
Grain weevil i202
Green nimitti i72
Horse fly i204
Mediterranean flour moth i203
Mosquito i71
Moth i8

VENOMS

Bumblebee i205
Common wasp (Yellow jacket i3
European Paper Wasp i77
European hornet i75
Honey bee i1
Paper wasp i4
White-faced hornet i2
Yellow hornet i5

DRUGS

Amoxicilloyl c6
Ampicilloyl c5
Cefaclor c7
Chlorhexidine c8
Gelatin bovine c74
Insulin human c73
Penicilloyl G c1
Penicilloyl V c2
Pholcodine c261
Morphine c260
Suxamethonium (succinylcholine) c202

OCCUPATIONAL

Bougainvillea k214
Cotton seed k83
Ethylene oxide k78
Ficus k81
Formaldehyde/Formalin k80
Green coffee bean k70
Hexahydrophtalic anhydrid k209
Isocyanate HDI (Hexamethylene diisocyanate) k77
Isocyanate MDI (Diphenylmethane diisocyanate) k76

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Allergy

Isocyanate TDI (Toluene diisocyanate) k75
Ispaghula k72
Latex k82
Methyltetrahydrophtalic anhydrid k211
Phthalic anhydride k79
Silk k74
Silk waste k73
Sunflower seed k84
Trimellitic anhydride, TMA k86

PARASITES
Anisakis p4
Ascaris p1
Echinococcus p2

MISCELLANEOUS
Cotton, crude fibers o1
Mealworm o211
MUXF3 CCD, Bromelain o214
Seminal fluid o70
Streptavidin o212

FOODS – FRUITS & VEGETABLES
Apple f49
Apricot f237
Asparagus f261
Aubergine, eggplant f262
Avocado f96
Bamboo shoot f51
Banana f92
Beetroot f319
Blackberry f211
Blueberry f288
Broccoli f260
Brussel sprouts f217
Cabbage f216
Carrot f31
Cauliflower f291
Celery f85
Cherry f242
Cucumber f244
Date f289
Fennel, fresh f276
Fig f328
Garlic f47
Grape f259
Grapefruit f209
Guava f292
Jujube f336
Kiwi f84
Lemon f208
Lettuce f215
Lime f306
Mandarin (tangerine, clementine, satsumas) f302
Mango f91
Melon f87
Olive (black, fresh) f342
Onion f48
Orange f33
Papaya f293
Passion fruit f294
Peach f95
Pear f94
Persimon (kaki fruit, sharon) f301
Pineapple f210
Plum f255
Potato f35
Pumpkin f225
Raspberry f343
Red currant f322
Spinach f214
Strawberry f44
Sweet potato f54
Tomato f25
Watermelon f329

FOODS – SEED, LEGUMES & NUTS
Almond f20
Barley f6
Blue vetch f310
Brazil nut f18
Buckwheat f11
Cashew nut f202
Chick pea f309
Coconut f36
Common millet f55
Fenugreek f305
Foxtail millet f56
Gluten f79
Green bean f315
Hazel nut f17
Lentil f235
Lima bean f182
Linseed f333
Lupin seed f335
Macadamia nut f345
Maize, Corn f8
Oat f7
Pea f12
Peanut f13
Pecan nut f201
Pine nut, pignoles f253
Pistachio f203
Poppy seed f224
Pumpkin seed f226
Quinoa f347
Rape seed f316
Red kidney bean f287
Rice f9
Rye f5
Sesame seed f10
Soybean f14
Spelt wheat f124
Sugar-beet seed f227
Sweet chestnut f299
Walnut f256
Wheat f4
White bean f15

FOODS – SPICES
Allspice f339
Anise f271
Basil f269
Bay leaf f278
Black pepper f280
Caraway f265
Cardamon f267
Chilipepper f279
Clove f268
Coriander f317
Curry (Santa Maria) f281
Dill f277
Ginger f270
Green pepper (unripe seed) f263
Lovage f275
Mace f266
Marjoram f274
Mint f332
Mustard f89
Oregano f283
Paprika, Sweet pepper f218
Parsley f86
Tarragon f272
Thyme f273
Vanilla f234

Allergy

FOODS – FISH, SHELLFISH & MOLLUSCS
Abalone f346
Anchovy f313
Blue mussel f37
Cat fish f369
Chub mackerel f50
Clam f207
Crab f23
Crayfish f320
Fish (cod) f3
Gulf flounder f147
Haddock f42
Hake f307
Halibut f303
Herring f205
Jack mackerel, Scad f60
Langust (spiny lobster) f304
Lobster f80
Mackerel f206
Megrim f311
Octopus f59
Orange roughy f412
Oyster f290
Pacific squid f58
Plaice f254
Pollock f413
Red snapper f381
Salmon f41
Sardine (Pilchard) f308
Sardine, Japanese Pilchard f61
Scallop f338
Shrimp f24
Snail f314
Sole f337
Squid f258
Swordfish f312
Tilapia f414
Trout f204
Tuna f40
Walleye pike f415
Whitefish (Inconnu) f384

FOODS – EGG & FOWL
Chicken f83
Egg f245
Egg white f1
Egg yolk f75
Turkey meat f284

FOODS – MEAT
Beef f27
Elk/moose meat f285
Mutton f88
Pork f26
Rabbit f213

FOODS – MILK
Cheese, cheddar type f81
Cheese, mold type f82
Cow's whey f236
Goat milk f300
Mare's milk f286
Milk f2
Milk, boiled f231
Sheep milk f325
Sheep whey f326

FOODS – ADDITIVES
Carob (E410) f296
Guar, guar gum (E412) f246
Gum arabic (E414) f297
Tragacanth (E413) f298
Cochineal extract
(Carmine red) (E120) f340

FOODS – MISCELLANEOUS
Cacao f93
Coffee f221
Honey f247
Hop (fruit cone) f324
Malt f90
Mushroom (champignon) f212
Tea f222
Yeast f45

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

COMPONENT TESTING

Using ImmunoCAP Allergen Components can help refine the understanding of sensitisation, by assessing a person's sensitisation pattern at the molecular level. When used in conjunction with traditional extract-based IgE testing, these provide information at the individual component level.

For more information, please contact the Immunology Department on 020 7025 7917.

TEST	CODE	SAMPLE REQS	TAT
Alpha Gal Components (related to red meat)	ZZ37	B	2 days
Alternaria Components	ZZ1	B	2 days
Apple Components	ZZ36	B	2 days
Aspergillus Components	ZZ2	B	2 days
Birch Components	ZZ3	B	2 days
Brazil Components	ZZ4	B	2 days
Cashew Components	ZZ35	B	2 days
Cat Components	ZZ5	B	2 days
Celery Components	ZZ6	B	2 days
Cow's Milk Components	ZZ7	B	2 days
Dog Components	ZZ8	B	2 days
Egg Components	ZZ9	B	2 days
Fish Components	ZZ10	B	2 days
Hazelnut Components	ZZ11	B	2 days
House Dust Mite Components	ZZ12	B	2 days
Kiwi Components	ZZ32	B	2 days
Latex Components	ZZ13	B	2 days
Olive Components	ZZ14	B	2 days
Peach Components	ZZ15	B	2 days
Peanut Components	ZZ16	B	2 days
Shrimp Components	ZZ17	B	2 days
Soybean Components	ZZ18	B	2 days
Timothy Grass Components	ZZ19	B	2 days
Venom Components	ZZ33	B	2 days
Wall Pellitory Components	ZZ20	B	2 days
Walnut Components	ZZ34	B	2 days
Wheat Components	ZZ21	B	2 days
Glycan Determinants	ZZ27	B	2 days
Lipid Transfer Proteins	ZZ23	B	2 days
Lipocalins	ZZ28	B	2 days
Parvalbumins	ZZ29	B	2 days
Polcalcins	ZZ25	B	2 days
PR-10 Proteins	ZZ22	B	2 days
Profilins	ZZ24	B	2 days
Seed Storage Proteins	ZZ26	B	2 days
Serum Albumins	ZZ30	B	2 days
Tropomyosins	ZZ31	B	2 days

*** Please quote the ZZ Code when requesting Allergen Component Profiles.**

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Vitamins, Nutrition and Lifestyle

VITAMIN B PROFILE

Vitamin B1
Vitamin B2
Vitamin B3
Vitamin B6
Vitamin B9 (red cell)
Vitamin B12 (Active)

TAT 5 DAYS

VBP

A A B

VITAMIN PROFILE 1

Vitamin A
Beta Carotene
Vitamin B1
Vitamin B2
Vitamin B6
Vitamin C (Frozen)
Vitamin E

TAT 5 DAYS

VITS

A B B [7]

MINERAL SCREEN

Calcium
Magnesium
Zinc
Iron
Copper
Chromium
Manganese

TAT 5 DAYS

MINE

B K

SPORTS/PERFORMANCE PROFILE

FBC/ESR
Biochemistry Profile
HDL/LDL
Ferritin
C-Reactive Protein
Omega 3/Omega 6
Mineral Screen
Vitamin B9 (Red Cell Folate)
Vitamin B12 (Active)

TAT 5 DAYS

SPOR

A A A B B B B G K [4]

VITAMIN PROFILE 2

Vitamin A
Beta Carotene
Vitamin B1
Vitamin B2
Vitamin B3
Vitamin B6
Vitamin B9 (Red Cell Folate)
Vitamin B12 (Active)
Vitamin C (Frozen)
Vitamin D (25-OH)
Vitamin E

TAT 5 DAYS

VIT2

A A A B B [7,13]

MINERAL SCREEN – WHOLE BLOOD

Whole Blood Potassium
Whole Blood Magnesium
Whole Blood Calcium
Whole Blood Manganese
Whole Blood Zinc
Whole Blood Copper
Whole Blood Selenium
Whole Blood Chromium

TAT 5 DAYS

RMIN

H H

Patients taking supplements may be advised to stop medication prior to testing.

Vitamins, Nutrition and Lifestyle

TEST	CODE	SAMPLE REQS	TAT
Ceruloplasmin	CERU	B	1 day
Copper (Serum)	COPP	B	5 days
Essential Fatty Acid Profile (Red Cell)	EFAR	A [4]	10 days
Folate (Red Cell)	RBCF	A	2 days
Glutathione (Red Cell)	GLUR	H [5]	5 days
Glutathione Peroxidase	GLPX	H	5 days
Lutein	LUTE	B [13]	2 weeks
Lycopene	LYCO	B	2 weeks
Magnesium (Whole blood)	RCMG	A or H	4 days
Mineral Screen	MINE	B K	5 days
Mineral Screen (Whole blood)	RMIN	H H	5 days
Mineral Screen and Industrial Heavy Metal Screen (Trace Metals)	TRAC	A B H K	7-10 days
Omega 3/Omega 6	OMG3	A [4]	4 days
Selenium (Serum)	SELE	B	4 days
Selenium (Whole Blood)	SELR	A or H	4 days
Sports/Performance Profile	SPOR	A A A B B B B G K [4]	5 days
Xylose Tolerance Test	XTT	J [1]	7 days
Zinc (Serum/Plasma)	ZINC	K	1 day
Zinc (Urine)	URZN	CU	5 days
Zinc (Whole Blood)	RBCZ	A or H	5 days

This provides valuable diagnostic information, which can be assimilated with other diagnostic markers in the assessment of nutritional status, and compares favourably to semi-quantitative functional assays. For fertility and lifestyle refer to page 60.

TEST	CODE	SAMPLE REQS	TAT
1,25 Vitamin D	D3	B	5-8 days
Beta Carotene	CARO	B	5 days
Biotin	BIOS	B	5 days
Carotenes	CARO	B [13]	5 days
Vitamin A (Retinol)	VITA	B	5 days
Vitamin B (Functional)	FUNC	A A or H [13]	5 days
Vitamin B Profile	VBP	A A B	5 days
Vitamin B1 (Thiamine)	VIT1	A	5 days
Vitamin B2 (Riboflavin)	VIB2	A	5 days
Vitamin B3 (Nicotinamide)	VIB3	B	5 days
Vitamin B5 (Pantothenic Acid)	VB5S	B	5 days
Vitamin B6 (Pyridoxine)	VITB	A	5 days
Vitamin B8 (Biotin)	BIOS	B	5 days
Vitamin B9 (Folic acid) – Red cell	RBCF	A	2 days
Vitamin B9 (Folic acid) – Serum	FOLA	B	1 day
Vitamin B12 (Active)	B12	B	1 day
Vitamin B12 (Active)/Red Cell Folate	B12F	A B	2 days

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Vitamins, Nutrition and Lifestyle

TEST	CODE	SAMPLE REQS	TAT
Vitamin C (Active)	VITC	B (Frozen)[7]	5 days
Vitamin D (1, 25 Dihydroxy)	D3	B	5-8 days
Vitamin D (25-OH)	VITD	B	4 hours
Vitamin E (Alpha Tocopherol)	VITE	B	5 days
Vitamin K (Nutritional)	VKN	B[13]	5 days
Vitamin Profile 1	VITS	A B B[7]	5 days
Vitamin Profile 2	VIT2	A A A B B[7,13]	5 days

Omega3/6

Essential Red Cell Fatty Acids Omega-3/Omega-6

Omega-3 is the name given to a family of polyunsaturated fatty acids, which the body needs but cannot manufacture itself. Omega-3 fats are used as the building blocks for fat derived hormones such as prostaglandins and leukotrienes. The hormones with an Omega-3 base tend to reduce inflammation, while those that have an Omega-6 base increase inflammation. In the cell membrane the competition between these two essential fats has a direct bearing on the type of local hormone produced and the level of inflammation in the cell.

The Omega-6 to Omega-3 ratio in the cell membranes is key to the development of inflammatory disorders such as rheumatoid arthritis and heart disease. Diets low in oily fish and high in grains will promote inflammation and affect good health. The ratio of Omega-6 to Omega-3 in the West is around 15 to 1, fifteen times more Omega-6 on the cell membrane promoting inflammation. Having twice as much Omega-6 is considered by most experts to be the optimal amount but a ratio of 2:1 is not easy to produce by diet alone. Many people are aware of the health benefits of Omega-3 but the supplementation to achieve optimal health is erratic. Being able to test for Essential Red Cell Fatty Acids (Omega-6/Omega-3 ratio) identifies a person's current status and is sufficiently specific to allow an accurate supplementation recommendation to be made.

Results show the Omega Ratio with a clear recommendation for the required level of Omega Supplementation (if any) to achieve optimal levels.

Results show the ratio of Omega 3 to Omega 6, against an optimal ratio and provide a supplementation recommendation to achieve this optimal ratio.

TEST	CODE	SAMPLE REQS	TAT
Omega 3/Omega 6	OMG3	A[4]	4 days

TDL Tinies™ and Self-collection samples

TDL TINIES™ (tinies@tdlpathology.com)

This list of tests covers some of the range that can be offered to patients for self-collection, using TDL TINIES™ and Royal Mail postal packs. Orders for TDL TINIES™ (packs with instructions) can be made up by TDL, by arrangement, and sent individually to patients, or supplied directly to doctors or healthcare companies. This is not a patient self-referral service and it is not point of care testing. All testing is undertaken in the laboratory and results are always returned directly to the healthcare company or doctor, **not to the patient**.

TDL TINY™ samples can be combined with other self-collected samples types (e.g. urine, stool, swabs, HPV).

In the case of positive Sexual Health, results will be reported with the recommendation for a venous sample to undertake confirmatory sample.

The sample volume from one TINY sample, when filled to the upper fill line, is **600 microlitres**. These, on receipt in the laboratory, are centrifuged and provide a volume of approximately 300 microlitres of serum/plasma (depending on the tube type used). Different tests require varying amounts of sample, and this, together with analyser dead volumes, means that although certain tests can be carried out from TINY tubes, many tests simply cannot be successfully processed achieved from these smaller sample volumes.

TDL TINY™ microtainers are manufactured by BD Diagnostics. They are designed for samples collection from skin puncture. BD Microtainers come with a variety of additives for various tests, have visible fill lines, and are colour coded as for standard BD Vacutainer tubes. Tubes and Lancets are CE marked. TDL TINY™ packs are made up by TDL and contain everything needed for a patient to self-collect their blood sample.

Recommendation: most people are not experienced at self-collection of their own blood. Whilst it is certainly possible to process a number of tests from one TINY and it is possible to collect blood drops for two or three microtainers – the most successful outcomes are collected by patients who read the instructions given in each pack, and who collect enough sample for one microtainer. Instructions for sample collection are enclosed in each pack. A completed **request form** must be enclosed with the returned sample. Results will always be sent to the requesting doctor/healthcare organisation.

There is a TDL TINY™ video to assist patients with sample collection.

Visit http://www.tdlpathology.com/test-information/test-service-updates/tdl-tinies

This can be personalised with logo and details.

For information and packs, please contact Annette Wilkinson 020 7307 7343 or email tinies@tdlpathology.com.

Tests that can be self-collected using TDL TINIES™

HAEMATOLOGY		
TEST	**CODE**	**SAMPLE REQS**
Full Blood Count	FBC	A
HbA1c	GHB	A

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

TDL Tinies™ and Self-collection samples

BIOCHEMISTRY

TEST	CODE	SAMPLE REQS
Amylase	AMY	B
Calcium	CA	B
Calcium + Vitamin D	CALD	B
Carbohydrate Deficient Transferrin	CDT	B
C Reactive Protein	CRP	B
C Reactive Protein (High Sensitivity)	HCRP	B
Ferritin	FERR	B
HbA1c	GHB	A
Iron Status Profile (FE/TIBC/FERR)	ISP	B
Liver Function Tests	LFT	B
Lipid Profile	LIPP	B
Lp-PLA2 (PLAC) Test	PLA2	B
Uric Acid	UA	B
Vitamin B12 (Active)	B12	B
Vitamin D (25-OH)	VITD	B

ENDOCRINOLOGY

TEST	CODE	SAMPLE REQS
AFP	AFP	B
Antimullerian Hormone	AMH	B
Beta HCG (Quantitative)	QHCG	B
Cortisol	CORT	B
DHEA Sulphate	DHEA	B
Female Hormone (LH/FSH/PROL/OEST)	FIP	B
FSH	FSH	B
HRT Profile 1 (FSH/OEST/PROG)	HRT	B
Oestradiol	OEST	B
Progesterone	PROG	B
Prolactin	PROL	B
SHBG	SHBG	B
Testosterone	TEST	B
Thyroid Profile 1 (Free T4/TSH)	TF	B
Thyroid Profile 3 (Free T3/Free T4/TSH)	TF3	B

IMMUNOLOGY

TEST	CODE	SAMPLE REQS
Borrelia Antibodies (IgG/IgM)	BORR	B
Borrelia Antibodies (IgM)	BORM	B
Endomysial Antibodies IgA	AEAB	B
Gliadin Antibodies (IgG)	AGAB	B
H. pylori Antibodies (IgG)	HBPA	B
Tissue Transglutaminase IgA	TAA	B

Key: See page 23 for sample-taking and special handling instructions.

TDL Tinies™ and Self-collection samples

VIROLOGY / SEXUAL HEALTH

TEST	CODE	SAMPLE REQS
COVID-19 Roche Total Antibody IgG/IgM (SARS-CoV-2)	TCOV	CE marked self-collection kit*
Hepatitis B Surface Antigen	THBA	B
Hepatitis B Immunity (IgG)	THBI	B
Hepatitis C Antibodies	THCV	B
HIV1&2 Abs/p24 Ag	THIV	B
HPV mRNA (All High Risk Subtypes)	HPVY	Self-collection kit
HPV Individually Typed High Risk DNA Subtypes	HPVZ	Self-collection kit
Syphilis IgG/IgM	TSYP	B

*See details below – CE marked self-collection kits for COVID must be used.

TUMOUR MARKERS

TEST	CODE	SAMPLE REQS
AFP	AFP	B
Beta HCG(Oncology)	HCGQ	B
CA 15-3	C153	B
CA 19-9	C199	B
CA 125	C125	B
CEA	CEA	B
HE4 + ROMA	HE4	B
Prostate Specific Antigen	PSPA	B

LIFESTYLE

TEST	CODE	SAMPLE REQS
Omega 3/Omega 6	OMG3	A
Vitamin B9 (Folic Acid) Red Cell	RBCF	A
Vitamin B9 (Folic Acid) Serum	FOLA	B
Vitamin B12 (Active)	B12	B
Vitamin D (25-OH)	VITD	B

COVID-19 (SARS-CoV-2) Roche Elecsys Anti-SARS-CoV-2 Total Antibody

Roche Elecsys Anti-SARS-CoV-2 reports both IgG and IgM as a TOTAL antibody result. The Roche Antibody test is CE marked for **capillary** samples, and one of the UKHSA selected antibody tests.

Test Code: TCOV

Sample Type	**SST/Serum B Capillary (>14 days after onset of symptoms)**
Performance	**Specificity 100%, Sensitivity 97.4%**
Analysers	**Roche e801**
Turnaround time	**24 hours from receipt of sample**

Self-collection capillary samples must be taken using CE marked IVD for COVID Postal kits

The kits include a Royal Mail Tracked 24 return label. Contact TCOV@tdlpathology.com for details.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

TDL Tinies™ and Self-collection samples

THE DOCTORS LABORATORY

Sample collection instructions

Please read these instructions first, slowly and carefully, the whole way through before attempting to collect your sample. If you need assistance please contact The Doctors Laboratory on 020 7307 7373 or email samples@tdlpathology.com

Clearly complete the sample label using a ball point pen with:

- **Your surname**
- **Your first name**
- **Your date of birth**
- **Date of sample**

Do not affix the label to the blood collection tube until after collecting your sample. This is important as you will not be able to see how much blood you have collected if the label covers the sides of the tube. Sample self-collection is carried out at an individual's own risk.

Your sample collection kit contents

Place all of the items in your kit onto a clean surface and check that your kit contains the items outlined below. Do not proceed with sample collecting if any items are missing. Contact the phone number or email address above for assistance. Have a box of tissues to hand. Please do not discard the collection kit box, this is needed to return your samples.

Request form

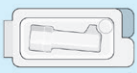
IMPORTANT!

The protective packing wallet has been designed to provide a stable way of holding the blood collection tube whilst a sample is collected. **Please insert the tube as shown above and remove the cap and put it to one side whilst you collect your sample.**

IMPORTANT!

The BLUE lancet activates on contact when positioned and pressed against the skin. Lancets are for single use only.


Blood collection tube


Protective packing wallet


Lancet x 1 (+2 spares)

Moist wipe x 2

Alcohol swab x 1 (+1 spare)


Plaster x 2

Sample label x 4

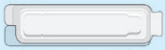
Return envelope

Postal tracking label

IMPORTANT!

A sample label is supplied for each sample to be collected. **Please make sure the correct label is applied to the correct sample type.**


Swab x 2


Protective packing wallet


Urine sample tube

Urine collection box

STEP 1
TDL TINY™ SAMPLE COLLECTION

1

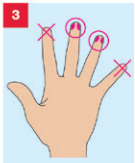
If not already pre-populated please complete the test request form provided by your doctor/clinic.

2

Write your name, date of birth and date of sample on the label marked 'Blood'. This is very important as unlabelled samples cannot be processed.

Do not affix it to the tube at this stage.

3


The best locations for collecting finger prick samples are from the sides of your two middle fingers.

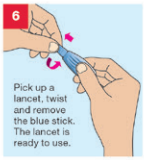
4


Wash your hands in warm soapy water. **It is much easier to collect your sample if your hands are warm.** Dry them thoroughly with a clean, dry towel.

5


Using the Alcohol Swab clean the selected finger. Wipe dry with a clean tissue. **Be sure your finger is completely dry as blood will not form a drop at the puncture site of a moist finger.**

6


Pick up a lancet, twist and remove the blue stick. The lancet is ready to use.

7


Sit down to prick your finger and if comfortable stand up to collect your sample. Position the lancet against the side of your chosen finger. The lancet will activate in one step only when positioned and pressed very FIRMLY against the skin until a click is heard. Should you need to repeat the process to help obtain enough blood use one of the remaining lancets.

8

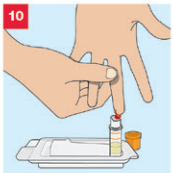

This will puncture the skin and a small drop of blood will form.

Wipe away the first drop of blood with a clean tissue.

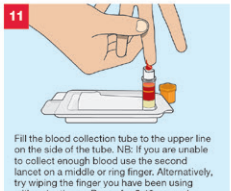
9


Holding your hand/arm downwards, firmly massage your hand down to your finger, without squeezing, to encourage blood flow.

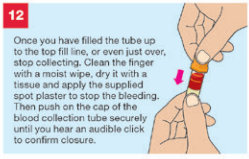
10


Firmly massage your hand and finger, without squeezing, to help the blood drop into the blood collection tube as shown.

11


Fill the blood collection tube to the upper line on the side of the tube. NB: If you are unable to collect enough blood use the second lancet on a middle or ring finger. Alternatively, try wiping the finger you have been using with a dry tissue. Pause for 5-10 seconds and blood drops are likely to reform, and you can then start collecting again.

12


Once you have filled the tube up to the top fill line, or even just over, stop collecting. Clean the finger with a moist wipe, dry it with a tissue and apply the supplied spot plaster to stop the bleeding. Then push on the cap of the blood collection tube securely until you hear an audible click to confirm closure.

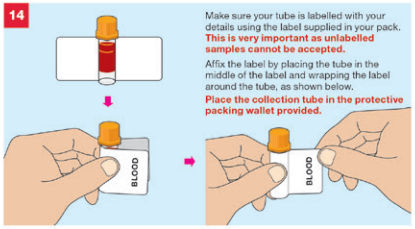
13


Once you have replaced the cap, gently invert the collection tube 5 to 10 times.

Key: See page 23 for sample-taking and special handling instructions.

TDL Tinies™ and Self-collection samples

14



Make sure your tube is labelled with your details using the label supplied in your pack. **This is very important as unlabelled samples cannot be accepted.**

Affix the label by placing the tube in the middle of the label and wrapping the label around the tube, as shown below.

Place the collection tube in the protective packing wallet provided.

15

Place inside the test kit box:

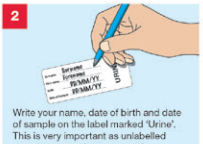
- **the protective packing wallet containing the blood collection tube**
- **used lancet(s)**
- **unused lancet(s)**

STEP 2
URINE SAMPLE COLLECTION

1

Wash your hands.

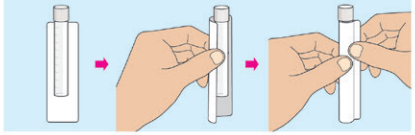
2



Write your name, date of birth and date of sample on the label marked 'Urine'. This is very important as unlabelled samples cannot be processed.

3

Affix the label by placing the tube in the middle of the label and wrapping the label around the tube, as shown below.



4

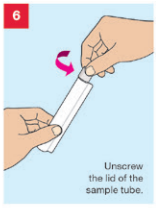
Squeeze the sides of the urine collection box to expand it.

The box has a plastic lining inside to contain the urine. Please take care not to damage or puncture the lining.

5

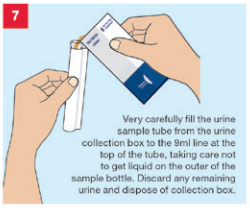
Pass the first part of your urine into the urine collection box until it is half full then finish in the toilet.

6



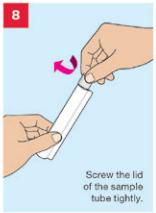
Unscrew the lid of the sample tube.

7



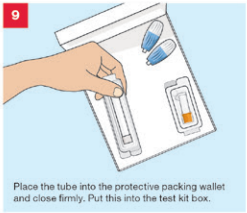
Very carefully fill the urine sample tube from the urine collection box to the 9ml line at the top of the tube, taking care not to get liquid on the outer of the sample bottle. Discard any remaining urine and dispose of collection box.

8



Screw the lid of the sample tube tightly.

9



Place the tube into the protective packing wallet and close firmly. Put this into the test kit box.

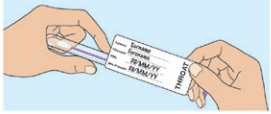
STEP 3
THROAT SWAB SAMPLE COLLECTION

1

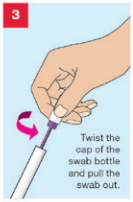
Wash your hands.

2

Open the packet containing the swab. Select the label marked 'Throat', write your name, date of birth and date sample collected on it and affix to the swab before collecting your sample.



3

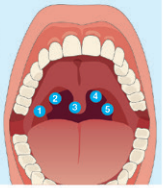


Twist the cap of the swab bottle and pull the swab out.

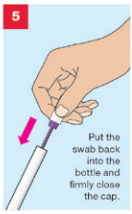
4

Make sure the swab makes good contact with the 5 key areas of the mouth:

1. Tonsil
2. Posterior wall
3. Uvula
4. Posterior wall
5. Tonsil



5



Put the swab back into the bottle and firmly close the cap.

6

Place the swab bottle into the test kit box.

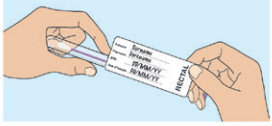
STEP 4
RECTAL SWAB SAMPLE COLLECTION

1

Wash your hands.

2

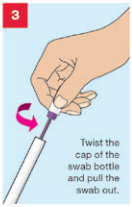
Open the packet containing the swab. Select the label marked 'Rectal', write your name, date of birth and date sample collected on it and affix to the swab before collecting your sample.



Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

TDL Tinies™ and Self-collection samples

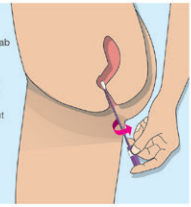
3



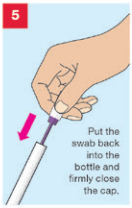
Twist the cap of the swab bottle and pull the swab out.

4

Holding the swab tightly, slowly insert the tip into your anus. Twist the swab slightly as you slowly pull it out of your anus.

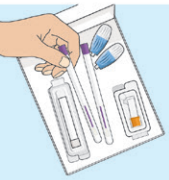


5



Put the swab back into the bottle and firmly close the cap.

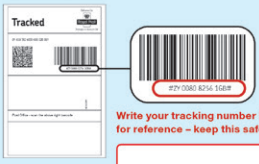
6



Place the swab bottle into the test kit box.

7

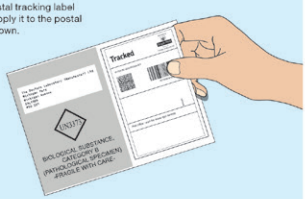
Please make a note of the unique tracking number displayed under the barcode on the postal tracking label, as shown below. Keep this in a safe place for future reference. **You can track delivery of your Royal Mail parcel by entering this number using the following link:** http://www.royalmail.com/track-your-item



Write your tracking number here for reference – keep this safe.

8

Peel off the postal tracking label and carefully apply it to the postal envelope as shown.



9 CHECKLIST

Before you return your sample please do the following:

- ☐ **Place your completed request form into the return envelope**
- ☐ **Make sure the blood tube is labelled and securely placed inside the protective packing wallet (Step 1)**
- ☐ **Place used/unused lancets into the test kit box (Step 1)**
- ☐ **Make sure the urine sample is labelled and securely placed inside the protective packing wallet (Step 2)**
- ☐ **Make sure the throat swab is firmly inside the swab bottle and this has been labelled (Step 3)**
- ☐ **Make sure the rectal swab is firmly inside the swab bottle and this has been labelled (Step 4)**
- ☐ **Check that all of your samples are inside the test kit box**
- ☐ **Close the test kit box firmly and place it into the return envelope**
- ☐ **If returning your sample by post, please make sure the postal tracking label has been affixed to the front of the return envelope and that you have taken note of your postal tracking number**

You are now ready to seal the return envelope.

Please send your sample to The Doctors Laboratory without delay from ANY Royal Mail post box in the UK.

If you need assistance please contact The Doctors Laboratory on 020 7307 7373 or email samples@tdlpathology.com.

The Doctors Laboratory, The Halo Building, 1 Mabledon Place, London WC1H 9AX
Tel: 020 7307 7373 Fax: 020 7307 7374 E-mail: tdl@tdlpathology.com
Website: www.tdlpathology.com

Key: See page 23 for sample-taking and special handling instructions.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Screening for Drugs of Abuse/Alcohol

TEST	CODE	SAMPLE REQS	TAT
Alcohol Profile	AP	A B B G	5-7 days
Alcohol Profile 2	ALCP	A A B B G **RU**	5-7 days
Amphetamines – Blood	AMPB	B B	5 days
Cannabinoids (Urine) Screen	CANN	**RU**	1 day
Cocaine (Urine) Screen	UCOC	**RU**	1 day
Drugs of Abuse from Blood without Chain of Custody	DOAP	B	5 days
Drugs of Abuse Profile – Random Urine Sample/No Chain of Custody	DOA	**RU**	2 days (5 days with LC-MS/MS confirmation)
Drugs of Abuse Profile – Random Urine Sample/No Chain of Custody Plus Alcohol	DOA3	**RU**	2 days (5 days with LC-MS/MS confirmation)
Drugs of Abuse Profile – With Chain of Custody	DOAL	**RU/CoC Collection Containers** [1,2]	2 days (5 days with LC-MS/MS confirmation)
Drugs of Abuse Profile – Without Chain of Custody	DOAN	**RU** [2]	2 days (5 days with LC-MS/MS confirmation)
Ketamine Screen	KETA	**RU**	7-10 days
LSD	LSD	**RU**	5 days
Opiate Screen (Urine)	UOPI	**RU**	2 days
PEth (Phosphatidylethanol)	PETH	A [38]	5-7 days
Urine EtG (Ethyl glucuronide)	ETG	**RU**	1 week

Chain of custody refers to the system of controls governing the entire urine collection, processing and storage of sample to ensure that a particular urine specimen originated from a particular individual and that the reported results relate, beyond doubt, to that specimen. Chain of custody requires attention to detail so that it is possible to prove that there has been no opportunity for the sample to be accidentally or maliciously adulterated. Sample collection should be undertaken by collectors who are well versed in the protocols of chain of custody.

Samples submitted for analysis will undergo initial screening. Urinary creatinine is routinely measured during testing to verify the validity of the sample submitted. Creatinine levels below normal occur when the urine has been diluted, either directly or by drinking large amounts of water before providing the urine sample. Chain of custody containers, forms, seals and barcodes are provided by TDL on request. All Chain of Custody, and non-chain, samples with positive findings will proceed to identification/confirmation by Gas Chromotography/Mass Spectrometry.

Screening for Drugs of Abuse/Alcohol

DRUGS OF ABUSE SCREENING

DRUGS OF ABUSE PROFILE – WITH CHAIN OF CUSTODY

Alcohol
Amphetamines
Barbiturates
Benzodiazepine
Cannabinoids
Cocaine
Codeine – opiate
Dihydrocodeine – opiate
Ketamine
LSD
MDMA
Methadone
Methaqualone
Morphine – opiate
Phencyclidine
Propoxyphene

TAT 2 DAYS | TAT 5 DAYS WITH LCMS/MS CONFIRMATION

DOAL

RU/CoC collection containers [1,2] * See page 157

DRUGS OF ABUSE PROFILE – RANDOM URINE SAMPLE/NO CHAIN OF CUSTODY

Amphetamines
Barbiturates
Benzodiazepine
Cannabinoids
Cocaine
Codeine – opiate
Dihydrocodeine – opiate
MDMA
Methadone
Morphine – opiate

TAT 2 DAYS | TAT 5 DAYS WITH LCMS/MS CONFIRMATION

DOA

plus Alcohol
DOA3

RU

DRUGS OF ABUSE PROFILE – WITHOUT CHAIN OF CUSTODY

As above but with NO Chain of Custody

TAT 2 DAYS | TAT 5 DAYS WITH LCMS/MS CONFIRMATION

DOAN

RU [2]

DRUGS OF ABUSE FROM BLOOD – WITHOUT CHAIN OF CUSTODY

Amphetamines
Barbiturates
Tricyclic Antidepressants
Benzodiazepine
Cannabinoids
Opiates
Cocaine

TAT 5 DAYS

DOAP

B

ALCOHOL PROFILE

LFT
CDT
PEth
Alcohol Level
MCV

TAT 5-7 DAYS

AP

A B B G

ALCOHOL PROFILE 2

LFT
CDT
PEth
Urine Ethyl Gluconaride (EtG)
Alcohol Level
MCV

TAT 5-7 DAYS

ALCP

A A B B G RU

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Occupational health

OCCUPATIONAL HEALTH – TRACE METALS IN BLOOD

TEST	CODE	SAMPLE REQS	TAT
Aluminium (Blood)	ALUM	K	7 days
Arsenic (Blood)	ARS	A or H	5 days
Cadmium (Blood)	CADM	A or H	5 days
Chromium (Blood)	CHRO	A	5 days
Cobalt (Serum)	COBB	B	5 days
Copper (Serum)	COPP	B	5 days
Lead (Blood)	LEAD	A	5 days
Lead Profile (Hb, ZPP, Lead)	LEAZ	A [13]	3-5 days
Magnesium (Serum)	MG	B	4 hours
Manganese (Serum)	MANG	B	5 days
Mercury (Blood)	MERC	A or H	5 days
Nickel (Serum)	NICK	B	5 days
Silver (Blood)	SILV	B	5 days
Trace Metal (Blood) Profile	TRAC	A B H K	7-10 days
Zinc (Serum/Plasma)	ZINC	K	1 day

TRACE METAL (BLOOD) PROFILE

Aluminium
Manganese
Iron
Calcium
Zinc
Magnesium
Copper
Cadmium
Mercury
Lead
Chromium

TAT 7-10 DAYS

TRAC

A B H K

Occupational health

OCCUPATIONAL HEALTH – TRACE METALS IN URINE

TEST	CODE	SAMPLE REQS	TAT
Aluminium (Urine)	ALUU	RU	1-2 weeks
Arsenic (Urine)	ARSE	RU [30]	5 days
Cadmium (Urine)	URCD	RU [30]	5 days
Chromium (Urine)	URCR	RU [30]	10 days
Cobalt (Urine)	COBA	RU [30]	5 days
Copper (Urine)	URCU	CU	5 days
Lead (Urine)	URPB	RU	5 days
Magnesium (Urine)	URMG	PU	1 day
Mercury (Urine)	URHG	RU [1]	5 days
Nickel (Urine)	NICU	RU	10 days
Silver (Urine)	USIL	RU	5 days
Zinc (Urine)	URZN	CU	5 days

OCCUPATIONAL HEALTH – TESTS FOR SPECIFIC EXPOSURE

TEST	CODE	SAMPLE REQS	TAT
2-Butanone GC	BUTA	RU	7 days
2-Furoic Acid	2FA	RU	10 days
Acetone – Blood	ACTB	A or H	2 weeks
Acetone – Urine	ACTU	RU	5 days
Alcohol Profile	AP	A B B G	5-7 days
Alcohol Profile 2	ALCP	A A B B G RU	5-7 days
Benzene	BENZ	J [1,6]	3 days
Beta 2 Microglobulin (Serum)	B2MG	B	2 days
Beta 2 Microglobulin (Urine)	UB2M	RU	3 days
Bromide	BROM	B	3 days
Cholinesterase (Serum/Pseudo)	CHPS	B	4 hours
Doxepin Level (Sinequan)	DOXE	A	10 days
MBOCA in Urine	MBOC	RU	10 days
Molybdenum (Serum)	MOLY	B	5 days
Pethidine – Urine	UPET	RU	4 weeks
Thallium (Blood)	THAL	A / H	1 week
Thallium (Urine)	URTH	RU	1 week
Toluene (Blood)	TOL	J	10 days
Toluene (Urine)	UTOL	RU	10 days
Trichloracetic Acid (Urine)	UTCA	RU	5 days
Xanthine – Blood	XANB	A	2 weeks
Xylene – Urine	UXYL	RU [30]	2 weeks
Zinc Protoporphyrin	ZNPR	A [13]	5 days

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Cervical Screening

The Cervical Cytology laboratory provides a rapid service for liquid based cervical samples. Urine cytology is performed in house while other non-gynaecological cytology samples are referred to a UKAS accredited laboratory for reporting.

Human papilloma virus (HPV), Chlamydia and Gonorrhoea testing is carried out routinely from ThinPrep vials and can be requested at the time the cervical sample is taken.

Laboratory hours

The laboratory department is open between 9.00am and 6.00pm.
Out-of-hours results are available on 020 7307 7373.

Urgent samples

It is helpful if requests for urgent samples can be discussed with the Senior Management Team. Please telephone 020 7307 7323 ext 4761.

Use of service/Information required

Request forms must include **3 identifiers** (this can be patient's full name = 1, date of birth, hospital number or reference number). Samples will not be processed without a request form.

Appropriate clinical information providing previous treatment/histological diagnosis is essential to ensure correct management recommendations can be given in the patient report. Tick boxes are provided to assist you.

The specimen container must be clearly labelled with patient details. Forms and samples which are mismatched will result in the sample being returned to the sender for correction and will delay the report turn around time.

Clinical advice

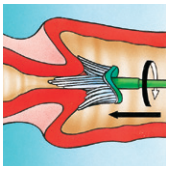
The Consultant Cytopathologists and the Advanced Practitioner work together to provide clinical and technical advice, including recommendations for follow-up, HPV testing and management of complex cases. TDL will provide recommendation for patient management, but not undertake to provide a direct referral. No result will be entered onto the NHS CSP database and will therefore not be part of an individual's NHS screening record. Failsafe and management of the patient and their follow up, including referral for colposcopy where indicated, would need to be arranged by their referring clinician. To contact the department directly, please 020 7307 7323.

Cervical Screening

RECORD…

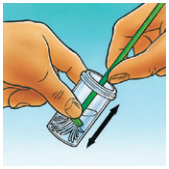
…the patient's 3 identifiers to include date of birth on the vial.

…the patient information and medical history on the cytology requisition form.



OBTAIN…

…an adequate sample from the cervix using a Cervex Brush (broom-like device). Insert the central bristles of the brush into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently and rotate the brush in a clockwise direction five times.



RINSE…

…the Cervex Brush immediately into the PreservCyt Solution vial by pushing it into the bottom of the vial 10 times, forcing the bristles apart. As a final step, swirl the brush vigorously to further release material. Visually inspect the Cervex Brush to ensure that no material remains attached. Discard the brush.

Do not leave the head of the Cervex Brush in the vial. Check the vial is in date before use.

TIGHTEN…

…the cap so that the black torque line on the cap passes the black torque line on the vial. Do not over-tighten.

PLACE…

…the vial and request form in a specimen bag for transportation to TDL.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Cervical Screening

ThinPrep® PAP Test Cervex Brush Protocol

PREPARE ALL EQUIPMENT BEFORE STARTING THE PROCEDURE

- Note expiry date on sample collection vial. Do not use expired vials.
- Ensure the entire plastic seal is removed from the lid of the vial and discarded.
- Complete patient details on both the request form and the vial. Specimens may be returned or discarded if details are missing from the vial.
- Remove the lid from the vial before taking the sample.
- **Use of lubricant is NOT recommended**.

DO

- If excessive mucus is present, this should be gently removed before sampling.
- Use either the Cervex Brush (broom-like device) on its own or a Plastic spatula and endocervical brush combination.
- The Cervex Brush should be rotated 5 times in a clockwise direction. The Plastic spatula should be rotated through 360 degrees and the endocervical brush rotated through one quarter to one half turn.
- Immediately rinse the collected material into the vial.
- Replace the lid and tighten so that the black torque line on the cap passes the black torque line on the vial to avoid leakage.
- Keep the unlabelled portion of the sample vial free of labels so that the contents can be seen.
- If barcoded labels are used these must be applied horizontally around the vial.
- Samples should be sent to the laboratory without delay.

DON'T

- DO NOT leave the head of the Cervex Brush in the vial.
- DO NOT routinely clean the cervix or take a cervical swab before taking a cervical sample.
- An endocervical brush should never be used in isolation.
- DO NOT under any circumstances use a wooden spatula.
- DO NOT leave the collection device sitting in the vial whilst dealing with the patient.
- DO NOT over-tighten the lid on the vial.
- DO NOT place multiple labels on the outside of the vial.
- DO NOT apply barcoded labels vertically on the vial.
- DO NOT use expired vials.
- DO NOT delay the sending of vials to the laboratory. The sample needs to be processed within 3 weeks of collection.
- DO NOT use excessive lubricant – please AVOID if possible.

Cervical Screening

Gynaecological Samples

The Cytology department processes cervical samples directly referred from all sectors of practice – Health Screening, Occupational Health, GP's, Consultants, Colposcopy Units, Clinics, Hospitals and other Laboratories.

Liquid Based Cytology (LBC) is processed using the Hologic ThinPrep system.
The Doctors Laboratory uses the Hologic Imaging system as an enhanced Quality Control.

Information for Sample Takers is available by contacting the department. **Important: the head of the cervical broom must NOT be left in the vial**. The use of lubricant interferes with LBC sampling and may result in an inadequate sample. Use of lubricant is NOT recommended as it can affect the processing quality of the sample. Supplies of Thin prep vials are available from TDL.

STI Screening from Hologic Thin Prep Vial (HPV – see page 166)

Tests are priced individually. Please request tests individually. Thin Prep Vials are kept for 21 days after receipt of sample. Requests for additional tests from the vial already received in the laboratory can be made by contacting the Cytology Department.

Infection by PCR (singles)

TEST	CODE	SAMPLE REQS	TAT
Chlamydia trachomatis	TPCR	**TPV**	2 days
N. gonorrhoea	TGON	**TPV**	2 days
Chlamydia/Gonorrhoea	TCG	**TPV**	5 days
Mycoplasma genitalium	MGEN	**TPV**	2 days
Ureaplasma urealyticum	UGEN	**TPV**	2 days
Trichomonas vaginalis	TVPC	**TPV**	2 days
Gardnerella vaginalis	GVPC	**TPV**	2 days
Herpes Simplex I/II	HERD	**TPV**	5 days

7 STI PROFILE BY PCR FROM THIN PREP VIAL

Chlamydia trachomatis
N. gonorrhoea
Mycoplasma genitalium
Ureaplasma
Trichomonas vaginalis
Gardnerella vaginalis
Herpes Simplex I/II

All tests can be requested individually

TAT 2 DAYS

PP12

TPV

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Cervical Screening

Human papillomavirus (HPV) is a common virus transmitted through sexual contact. High Risk sub-types of HPV (HR-HPV) are linked to the development of abnormal cells and can cause cervical cancer. HPV is a necessary cause of invasive cervical cancer. Evidence shows HPV testing is a more effective way to identify women at risk of cervical cancer than by screening microscopically for abnormal cells from a PAP test.

HR-HPV testing has been used in the UK since 2011 to identify women with low grade cytology abnormalities and as a follow up test of cure in women who have received treatment. In 2017 the UK NHSCSP recommended that **testing for HPV should replace cytology as the first (primary test) in cervical screening**. Primary HR-HPV testing has higher sensitivity for high grade CIN than primary cytology. HR-HPV testing also has a lower false negative rate than cytology. Primary HR-HPV testing was fully implemented in the UK during 2020. Sample-taking remains unchanged: HR-HPV testing is carried out from Thin Prep samples. Cytology will be undertaken as a triage if HPV is DETECTED.

WHAT DOES THIS CHANGE MEAN?

It means that HPV testing is the **FIRST LINE TEST**. It will be carried out as a single test, with a single result reported as DETECTED/NOT DETECTED.

- If HR-HPV is NEGATIVE (NOT DETECTED) – this means no further testing is needed for your patient: she returns to Routine Recall
- If HR-HPV is POSITIVE (DETECTED) – this means that **CYTOLOGY** will be processed from the same Thin Prep Vial. **A further specimen is not required**.
- **If the result from the sample is HR-HPV NOT DETECTED** – the patient Recall will be determined by the screening history and will either be a repeat HR-HPV test in 12 months' time or, if HR-HPV remains persistent, a referral to colposcopy will be recommended.
- **If the CYTOLOGY result from the sample is ABNORMAL** the recommendation is to refer this patient for COLPOSCOPY.

https://www.gov.uk/government/publications/cervical-screening-primary-hpv-screening-implementation/cervical-screening-implementation-guide-for-primary-hpv-screening

All TDL requests for HPV have been processed as follows:

- **If HPV is requested as a single test and the result is Negative/Not Detected, cervical cytology (PAPT) would only be processed if specifically requested. Should HPV and PAPT be undertaken, there would be a charge for both the HPV and the PAPT.**
- **If the HPV result is HR-HPV Detected, cervical cytology (PAPT) will be processed, even if the PAPT has not been requested. The PAPT will not be charged.**

Cervical Screening

UNDERSTANDING THE SIGNIFICANCE OF HPV TESTING

The benefit of a negative HPV result is its negative predictive value – meaning that a negative HPV result indicates that a patient is at very low risk of developing cervical disease. However, neither HPV testing nor negative cervical cytology are able to reduce the risk to zero. The negative predictive value of both DNA and mRNA testing is the same. DNA tests detect presence of virus only. A mRNA test detects the presence of viral oncogenic expression.

Requests for Cervical Cytology (PAPT) only will no longer be processed without HPV. HPV testing will be charged.

Requests for PAPT

TEST	CODE	SAMPLE REQS	TAT
Cervical Cytology	PAPT will include HPVH	**TPV**	3 days

If PAPT is requested as a single test, HR-HPV will be undertaken additionally, and a combined report will be issued. **PAPT and HPVH will be charged**.

Requests for PAPT with selected HPV (HPVH or HP20 or HPVT)

TEST	CODE	SAMPLE REQS	TAT
PAPT and HPVH	PAPT + HPVH	**TPV**	3 days

If PAPT and HPVH are requested together, results will be given as a combined report, **PAPT and selected HPVH test will be charged**.

Requests for HPV as the PRIMARY TEST will reflex to PAPT if HR-HPV is DETECTED/POSITIVE. PAPT will NOT be charged.

TEST	CODE	SAMPLE REQS	TAT
HPV mRNA (All High Risk Subtypes)	HPVH	**TPV**	3 days

If HR-HPV is DETECTED/POSITIVE, cervical cytology (PAPT) will be processed **without charge**. The PAPT will be processed from the same vial.

Requests for HP20 as a single test

TEST	CODE	SAMPLE REQS	TAT
HPV (Individual low & high risk DNA subtypes)	HP20	**TPV/PCR Swab**	3 days

HPV low and high risk DNA subtypes will be reported individually (9 low and 19 high risk). If High Risk DNA subtypes are positive then cervical cytology (PAPT) using the same vial will be processed **without charge**.

Requests for HPVT as a single test

TEST	CODE	SAMPLE REQS	TAT
HPV (DNA and reflexed mRNA)	HPVT	**TPV**	3 days

If one or more of DNA types 16, 18, 31, 33, 45 are DETECTED/POSITIVE, reflex testing for expression of E6/E7 oncoproteins will be undertaken and cervical cytology (PAPT) will be processed **without charge**. The PAPT will be processed from the same vial.

HPV/PAPT Combined Report

Where HPV result is reported with Cervical Cytology, a recommendation for patient management will be given, based on the combined findings.

Turnaround times are from receipt of sample in the Cervical Cytology laboratory.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Self-collection HPV samples

TDL Self-Collection HPV Test

Human Papillomavirus (HPV) is the primary cause of nearly all cervical cancer. In most cases, the HPV virus is harmless and causes no symptoms. Most women who acquire HPV are able to clear the infection through their own immune systems. Persistent presence of high-risk types of HPV can cause cervical lesions which over time may develop into cancer if untreated. Testing for HPV determines the presence, or absence, of HPV and will determine whether the HPV type present is high risk for CIN and cervical cancer.

The **Self Collection HPV Test** provides women with the option to self-collect a vaginal specimen that is then sent to the laboratory for testing. There is well documented high level of concordance between the HPV DNA results from self-collected and clinician-collected specimens.

The **Self-Collection HPV Test** is validated, using a CE marked sample collection device for vaginal cell collection. This sample is then sent to the laboratory for processing for 19 high risk HPV DNA subtypes. A negative result means that these high-risk subtypes HPV were not detected and the patient is at extremely low risk of developing high-grade cervical disease/CIN2+ before their next routine visit.

A positive HPV result might indicate an increased risk of developing CIN/cervical cancer, and the report from the laboratory will provide a clear recommendation for follow-up/colposcopy.

The value of HPV DNA testing in cervical cancer screening and disease detection has been proven over and over again. Self-collection of specimens for HPV testing is not intended to replace existing patient management pathways but allows for:

- Those who wish to test following a change of sexual partner
- Option for identifying individual high risk DNA subtypes
- Personal preference to self-collect vaginal samples
- An acceptable option for women who avoid having regular cervical smears
- Self-collection for HPV increases acceptability and coverage rate of cervical cancer prevention

Results will always be sent to the requesting clinician, clinic or healthcare organisation.

HPVY Self-Collected HPV DNA incorporating of high risk subtypes

HPVZ Self-Collected HPV DNA with **individual** reporting of all High Risk subtypes (16, 18, 31, 33, 45, 35, 39, 51, 52, 56, 58, 59, 66, 68, 26, 53, 69, 73, 82).

For more information, or to order Self-Collection HPV Test Packs, please contact Annette Wilkinson on 020 7307 7373 or annette.wilkinson@tdlpathology.com

TEST	CODE	SAMPLE REQS	TAT
HPV Individually Typed High Risk DNA Subtypes	HPVZ	**Self-collection kit**	10 days
HPV mRNA (All High Risk Subtypes)	HPVY	**Self-collection kit**	3 days

Self-collection HPV samples

THE DOCTORS LABORATORY

Sample collection instructions

Please read these instructions first, slowly and carefully, the whole way through before attempting to collect your sample. If you need assistance please contact The Doctors Laboratory on 020 7307 7373 or email samples@tdlpathology.com

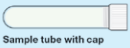
Clearly complete the sample label using a ball point pen with:

- **Your surname**
- **Your first name**
- **Your date of birth**
- **Date of sample collection**

Your sample collection kit contents

Place all of the items in your kit onto a clean surface and check that your kit contains the items outlined below. Do not proceed with sample collecting if any items are missing.

Sample label



Sample tube with cap

Plastic sample bag

Postal tracking label

Request form

Qvintip® self-sampling wand

Return envelope

SELF-COLLECTION HPV SAMPLE

Self-sampling step-by-step

Before use, check that the product is intact (blue and white self-sampling wand, and sample tube with cap). The self-sampling wand should be handled with care and only according to these instructions. Hold the wand straight when inserting it in and taking it out of your vagina. You can take your test in a standing or lying position. Don't collect a sample during your period. Sampling can be carried out during the first three months of pregnancy.

General Information

An infection with human papilloma virus (HPV) could potentially lead to cervical cancer. Your sample will be tested for prevalence of high-risk HPV. Your request will be handled confidentially. The results of the analysis will be posted to you.

Negative results

If the results are negative and the test shows no high-risk HPV, it means that there is currently very little risk of cervical cancer. Please note that you might be infected at a later stage. HPV is sexually transmitted.

Positive results

If the results are positive, it means you have an infection with high risk subtypes. Please contact your gynaecologist for follow-up counselling. Women with persistent infection run an increased risk of cell changes which may lead to cervical cancer. Detecting an infection at an early stage allows for treatment.

Please note – for easy self sampling

- The self-sampling wand is intended for **single use only**. The self-sampling wand should be handled with care and **only according to these instructions**.
- The white tip of the wand **must not be bent or removed** before self-sampling.
- To ensure correct results, the sample must **be sent without delay by post** after sample taking.

1 If not already pre-populated please complete the test request form provided by your doctor/clinic.

2

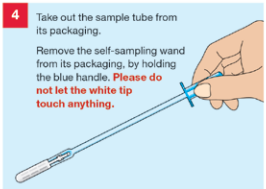
Write your name, date of birth and date of sample on the label. This is very important as unlabelled samples cannot be processed.

3

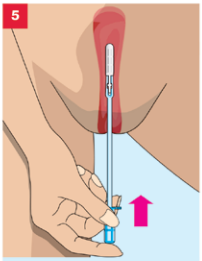
Wash your hands in warm soapy water.

4 Take out the sample tube from its packaging.

Remove the self-sampling wand from its packaging, by holding the blue handle. **Please do not let the white tip touch anything.**

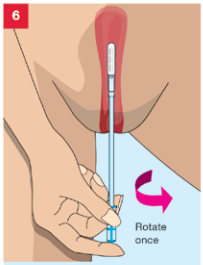


5



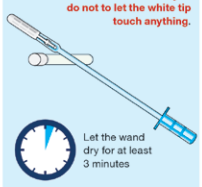
Keep the wand straight while collecting your sample. Insert the wand into your vagina as shown.

6



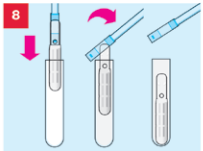
Rotate the self-sampling wand once. Take the wand out (keeping it straight).

7 Let the wand dry **for at least 3 minutes**, by resting it against the sample tube with the white tip in the air. **Please make sure you do not to let the white tip touch anything.**



Let the wand dry for at least 3 minutes

8



Unscrew the lid of the sample tube. Put the white portion of the wand into the sample tube. Bend the wand so that the white section falls into the sample tube. Screw the lid back onto the sample tube and dispose of the blue portion of the wand.

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Non-Gynae Cytology

Non-Gynaecological Cytology

Urines

To prevent cell degeneration it is advisable to collect urine samples in a sample pot containing preservative (available from TDL Supplies). Use of preservative will ensure the cellular material is preserved up to 48 hours.

Ideally 10 mls (excluding preservative) from a freshly fully voided urine (when the bladder is emptied) mid-morning sample should be submitted for cytological assessment. If microbiology or chemistry investigations are also required, **please submit separate urine samples** and mark the vials accordingly. A mid-stream urine sample is NOT recommended for cytological assessment is it could lead to a low cellular yield. If a delay of greater than 24 hours in reaching the laboratory is anticipated samples should be refrigerated at 4°C.

Sputum

Sputum should be collected on at least three occasions if underlying lung carcinoma is suspected. A single sputum is sufficient for microbiological assessment. Sputum should be sent to the laboratory immediately following production, or stored in a universal container containing cytolyt cell fixative if there is a likely delay. Please note that this is only acceptable if sputum is only for Cytology. Microbiology cannot be performed on fixed material. Early morning sputum is ideal, but contamination with food, toothpaste and tobacco should be avoided.

Fluids

All available material should be submitted in a sterile container without fixative as quickly as possible. If any delay is anticipated, the material should be submitted in cytolyt fixative.

Cerebrospinal fluid (CSF)

Ideally CSF should be submitted fresh or as an air dried cytospin slide, unstained and in a plastic transport slide box. A minimum of 3mls should be submitted either in fresh form or spun on multiple slides for cytopathologists' review and opinion. Please contact TDL Cytology for advice if required on 020 7307 7323 / 7373.

URINE/SPUTUM/FLUID			
TEST	**CODE**	**SAMPLE REQS**	**TAT**
Fluid Cytology	CATF	**Fluid** [4]	3 days
Urine Cytology (Urine cytology containers available from TDL Supplies)	URCY	**Urine** (30mls) [21]	2 days

Histopathology

CATEGORY	CODE	TISSUE SAMPLE
Breast	HIS1	Breast Capsule
Breast	HIS4	Breast Reduction (Bilateral)
Breast	HIS3	Breast Reduction (Unilateral)
Breast	HIS2	Breast Tissue
Breast	HIS2	Cavity Shavings
Breast	HIS1	Core Biopsy (1 Specimen)
Breast	HIS2	Core Biopsy (2 Specimens)
Breast	HIS3	Core Biopsy (3 Specimens)
Breast	HIS4	Core Biopsy (4 Specimens)
Breast	HIS3	Lumpectomy
Breast	HIS5	Mastecomy (simple)/Wide Local Excision (WLE)
Breast	HIS5+HIS4	Mastectomy + Axillary Clearance
Breast	HIS4	Microdochectomy
Breast	HIS2	Nipple
Breast	HIS5	Sentinal Nodes
Cardiac	HIS3	Aorta
Cardiac	HIS2	Cardiac Biopsy
Cardiac	HIS3	Cardiac Tumour Excision
Cardiac	HIS2	Heart Valves
Cardiac	HIS2	Mediastinal Tissue
Cardiac	HIS2	Pericardium
Cardiac	HIS2	Temporal Artery Biopsy
Endocrine	HIS5	Adrenal
Endocrine	HIS4	Parathyroid
Endocrine	HIS4	Thyroid (Lobe)
Endocrine	HIS5	Thyroid (Total)
ENT – Biopsy	HIS2	Bronchial Biopsy
ENT – Biopsy	HIS1	Cholesteatoma
ENT – Biopsy	HIS1	Dental Cyst
ENT – Biopsy	HIS1	Ear Canal Biopsy
ENT – Biopsy	HIS1	Ear Polyp
ENT – Biopsy	HIS1	Epiglottis
ENT – Biopsy	HIS1	Gingivial Tissue
ENT – Biopsy	HIS1	Laryngeal Biopsy
ENT – Biopsy	HIS2	Laryngeal Nodule (Bilateral)
ENT – Biopsy	HIS1	Laryngeal Nodule (Unilateral)
ENT – Biopsy	HIS2	Mandible Biopsy
ENT – Biopsy	HIS2	Maxillary Mucosa
ENT – Biopsy	HIS2	Mucocele
ENT – Biopsy	HIS1	Nasal Biopsy
ENT – Biopsy	HIS1	Nasal Polyps
ENT – Biopsy	HIS1	Oral Biopsy
ENT – Biopsy	HIS1	Palatal Biopsy

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Histopathology

CATEGORY	CODE	TISSUE SAMPLE
ENT – Biopsy	HIS1	Pharyngeal Biopsy
ENT – Biopsy	HIS2	Pleural Biopsy
ENT – Biopsy	HIS1	Thyroid Biopsy
ENT – Biopsy	HIS1	Tongue Biopsy
ENT – Biopsy	HIS1	Tonsil (1 Specimen)
ENT – Biopsy	HIS2	Tonsil Biopsy
ENT – Biopsy	HIS2	Tonsils (2 Specimens)
ENT – Biopsy	HIS2	Uvelectomy
ENT – Biopsy	HIS1	Vocal Chords
ENT – Resections	HIS5+HIS2	Glossectomy
ENT – Resections	HIS5	Laryngectomy
ENT – Resections	HIS5+HIS2	Maxillectomy
ENT – Resections	HIS5+HIS2	Neck Dissection
ENT – Resections	HIS5+HIS5	Neck Dissection (Bilateral)
ENT – Resections	HIS4	Parotidectomy
ENT – Resections	HIS4	Partial Thyroidectomy
ENT – Resections	HIS5+HIS5	Pharyngectomy
ENT – Resections	HIS5+HIS2	Rhinectomy
ENT – Resections	HIS3	Submandibular Gland – Excision
ENT – Resections	HIS2	Thyroglossal Cyst
GI Endoscopic – Biopsy	HIS1	Bile Duct Biopsy
GI Endoscopic – Biopsy	HIS1	Colonic Polyp
GI Endoscopic – Biopsy	HIS1	Endoscopic Biopsy (1 specimen)
GI Endoscopic – Biopsy	2H1	Endoscopic Biopsy (2 specimens)
GI Endoscopic – Biopsy	3H1	Endoscopic Biopsy (3 specimens)
GI Endoscopic – Biopsy	4H1	Endoscopic Biopsy (4 specimens)
GI Endoscopic – Biopsy	5H1	Endoscopic Biopsy (5 specimens)
GI Endoscopic – Biopsy	6H1	Endoscopic Biopsy (6 specimens)
GI Endoscopic – Biopsy	7H1	Endoscopic Biopsy (7 specimens)
GI Endoscopic – Biopsy	8H1	Endoscopic Biopsy (8 specimens)
GI Endoscopic – Biopsy	9H1	Endoscopic Biopsy (9 specimens)
GI Endoscopic – Biopsy	10H1	Endoscopic Biopsy (10-15 specimens)
GI Endoscopic – Biopsy	HIS5	Liver Biopsy – Medical
GI Endoscopic – Biopsy	HIS3	Liver Biopsy – Tumour
GI Endoscopic – Biopsy	HIS3	Omental Biopsy
GI Endoscopic – Biopsy	HIS1	Pancreatic Biopsy
GI Endoscopic – Biopsy	HIS1	Perianal Biopsy
GI-Resection – Small	HIS215	Anal Fistula
GI-Resection – Small	HIS2	Appendix
GI-Resection – Small	HIS3	Endo Mucosal Resection (EMR/ESD)
GI-Resection – Small	HIS2	Gallbladder
GI-Resection – Small	HIS2	Haemorrhoidectomy
GI-Resection – Small	HIS2	Hernia Sac
GI-Resection – Small	HIS3	Meckel's Diverticulum

Histopathology

CATEGORY	CODE	TISSUE SAMPLE
GI-Resection – Small	HIS2	Mesentery
GI-Resection – Small	HIS2	Perianal Biopsy/Warts
GI-Resection – Small	HIS2	Pilonidal Sinus
GI-Resection – Small	HIS2	Polypectomy
GI-Resection – Small	HIS2	Umbilical Lesion
GI Resection – Large	HIS5	Biliary Resection
GI Resection – Large	HIS5+HIS2	Colon
GI Resection – Large	HIS5	Distal Pancreatectomy
GI Resection – Large	HIS5+HIS2	Gastrectomy
GI Resection – Large	HIS5	Gastric Wedge Resection
GI Resection – Large	HIS5	Ileoanal Pouch Resection
GI Resection – Large	HIS4	Ileostomy
GI Resection – Large	HIS3	Ileum
GI Resection – Large	HIS5+HIS2	Large Bowel Resection – Benign/Malignant
GI Resection – Large	HIS4	Liver Wedge Resection
GI Resection – Large	HIS5+HIS2	Oesophagectomy
GI Resection – Large	HIS5	Partial Hepatectomy
GI Resection – Large	HIS5	Small Bowel Resection – Benign/Malignant
GI Resection – Large	HIS5+HIS5	Whipple's Procedure/Pancreatectoduodenectomy
Gynaecology	HIS2	Cervical Biopsy
Gynaecology	HIS1	Cervical Polyp
Gynaecology	HIS4	Cervix
Gynaecology	HIS1	Curettings – Endocervical
Gynaecology	HIS1	Curettings – Endometial
Gynaecology	HIS2	Endometrial Biopsy
Gynaecology	HIS1	Endometrial Pipelle
Gynaecology	HIS1	Endometrial Polyp
Gynaecology	HIS2	Fallopian Tube
Gynaecology	HIS3	Fibroids
Gynaecology	HIS2	Fimbrial Cyst
Gynaecology	HIS4	LLETZ and/or Cone Biopsy
Gynaecology	HIS2	Mastoid
Gynaecology	HIS2	Ovarian Biopsy
Gynaecology	HIS2	Ovarian Cyst
Gynaecology	HIS1	Ovarian Pipelle
Gynaecology	HIS5	Ovaries (Bilateral)
Gynaecology	HIS3	Ovary (Unilateral)
Gynaecology	HIS4	Ovary and Tube (Unilateral)
Gynaecology	HIS5	Ovary and Tube (Bilateral)
Gynaecology	HIS2	Pelvic Mass
Gynaecology	HIS1	Peritoneal Biopsy
Gynaecology	HIS5	Placenta
Gynaecology	HIS2	Pouch of Douglas
Gynaecology	HIS1	Products of Conception

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Histopathology

CATEGORY	CODE	TISSUE SAMPLE
Gynaecology	**HIS2**	Uterine Polyp
Gynaecology	**HIS4**	Uterus
Gynaecology	**HIS5**	Uterus and Cervix
Gynaecology	**HIS5**	Uterus, Tubes and Ovaries
Gynaecology	**HIS1**	Vulval Biopsy
Haemato-Oncology	**HIS5**	Bone Marrow
Haemato-Oncology	**HIS2**	Lymph Node
Haemato-Oncology	**HIS3**	Lymph Node (Lymphoma)
Haemato-Oncology	**HIS3**	Lymph Node (Metastatic Disease)
Haemato-Oncology	**HIS5**	Spleen
Haemato-Oncology	**HIS5**	Thymus
Lung – Biopsy	**HIS3**	Lung Biopsy
Lung – Resections	**HIS3**	Lung Lesion Small Wedge Resection
Lung – Resections	**HIS5+HIS5**	Lung Resection
Lung – Resections	**HIS5**	Lung Tumour Resection +/- Nodes
Neurosurgery	**HIS3**	Brain Biopsy
Neurosurgery	**HIS3**	Brain Resection
Neurosurgery	**HIS5+HIS5**	Muscle Biopsy
Neurosurgery	**HIS3**	Pituitary Gland – Resection
Neurosurgery	**HIS3**	Spinal Tumour Biopsy
Neurosurgery	**HIS3**	Spinal Tumour Resection
Neurosurgery	**HIS4**	Vertebrea
Opthalmic	**HIS1**	Conjunctival Biopsy
Opthalmic	**HIS1**	Cornea
Opthalmic	**HIS4**	Globe/Removal of Eye
Opthalmic	**HIS2**	Lacrimal Gland Biopsy/Excision
Opthalmic	**HIS1**	Orbit Contents of Eye
Orthopaedic	**HIS1**	Bone Biopsy
Orthopaedic	**HIS2**	Bone Currettings
Orthopaedic	**HIS2**	Bursa
Orthopaedic	**HIS2**	Duputrenes Contracture
Orthopaedic	**HIS3**	Femoral Head Resection
Orthopaedic	**HIS1**	Ganglion Cyst
Orthopaedic	**HIS3**	Joint Resurfacing/Redo Prosthesis Capsule
Orthopaedic	**HIS1**	Neuroma
Orthopaedic	**HIS2**	Synovial Biopsy
Orthopaedic	**HIS3**	Tendon
Skin and Soft Tissue	**HIS2**	Abscess
Skin and Soft Tissue	**HIS3**	Alopecia Biopsies
Skin and Soft Tissue	**HIS1**	Cyst Excision
Skin and Soft Tissue	**HIS1**	Fossa
Skin and Soft Tissue	**HIS1**	Granuloma
Skin and Soft Tissue	**HIS3**	Lipoma
Skin and Soft Tissue	**HIS2**	Skin Excision BCC/SCC

Key: See page 23 for sample-taking and special handling instructions.

Histopathology

CATEGORY	CODE	TISSUE SAMPLE
Skin and Soft Tissue	HIS1	Nail
Skin and Soft Tissue	HIS1	Pilonidal Sinus
Skin and Soft Tissue	HIS5	Sentinel Nodes in Skin Cancer (Melanoma)
Skin and Soft Tissue	1SK	Skin Biopsy (1 specimen)
Skin and Soft Tissue	2SK	Skin Biopsy (2 specimens)
Skin and Soft Tissue	3SK	Skin Biopsy (3 specimens)
Skin and Soft Tissue	4SK	Skin Biopsy (4 specimens)
Skin and Soft Tissue	5SK	Skin Biopsy (5 specimens)
Skin and Soft Tissue	6SK	Skin Biopsy (6 specimens)
Skin and Soft Tissue	7SK	Skin Biopsy (7 specimens)
Skin and Soft Tissue	8SK	Skin Biopsy (8 specimens)
Skin and Soft Tissue	9SK	Skin Biopsy (9 specimens)
Skin and Soft Tissue	10SK	Skin Biopsy (10 specimens)
Skin and Soft Tissue	11SK	Skin Biopsy (11-15 specimens)
Skin and Soft Tissue	HIS3	Soft Tissue Tumour Biopsy
Skin and Soft Tissue	HIS3	Soft Tissue Tumour Resection
Urology – Biopsy	HIS1	Bladder Biopsy
Urology – Biopsy	HIS1	Core Biopsy (Urology)
Urology – Biopsy	HIS2	Hydrocele
Urology – Biopsy	HIS2	Penile Biopsy
Urology – Biopsy	HIS1	Prostate Biopsy
Urology – Biopsy	2H1	Prostate Biopsies x 2
Urology – Biopsy	3H1	Prostate Biopsies x 3
Urology – Biopsy	4H1	Prostate Biopsies x 4
Urology – Biopsy	5H1	Prostate Biopsies x 5
Urology – Biopsy	6H1	Prostate Biopsies x 6
Urology – Biopsy	7H1	Prostate Biopsies x 7
Urology – Biopsy	8H1	Prostate Biopsies x 8
Urology – Biopsy	9H1	Prostate Biopsies x 9
Urology – Biopsy	10H1	Prostate Biopsies x 10-12
Urology – Biopsy	HIS5	Testicular Biopsy (Bilateral)
Urology – Biopsy	HIS4	Testicular Biopsy (Unilateral)
Urology – Biopsy	HIS1	Urethral Biopsy
Urology – Biopsy	HIS2	Vasectomy
Urology – Resection	HIS5+HIS5	Cystoprostatectomy
Urology – Resection	HIS3	Epididymis
Urology – Resection	HIS1	Foreskin/Circumcision
Urology – Resection	HIS5	Nephrectomy/Kidney
Urology – Resection	HIS5+HIS5	Prostatectomy
Urology – Resection	HIS5+HIS5	Radical Cystectomy
Urology – Resection	HIS3	Testis
Urology – Resection	HIS3 – HIS5+	TURBT (dependent on number of blocks)
Urology – Resection	HIS3 – HIS5	TURP (dependent on number of blocks)

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Special instructions for samples

1 Contact the laboratory for special sample tubes/containers/instructions.

2 Confirmation of not negative drug screens by LCMS/MS may take up to 5 days.

3 Clinical history essential and protect from light.

4 Send to the laboratory without delay.

5 Do not send sample to the laboratory between Friday noon and Monday morning.

6 Contact the Referrals Department before taking and sending sample to the laboratory.

7 Sample should be separated and frozen if sending overnight.

8 DRP Form required. DRP Form can be found at the back of the guide.

9 Clinical history must be provided.

10 Contact the laboratory for special stability tubes for lymphocyte subsets – or take an EDTA sample and ensure same day delivery to the laboratory, Monday to Friday noon (do not send sample between Friday noon and Monday morning).

11 Patient consent required. Consent Form can be found at the back of this guide.

12 Please provide one sample for each person being tested.

13 Protect from light.

14 Provide details of travel history.

15 Ammonia

Sample: EDTA plasma only. Full tubes and tightly stoppered. On ice, centrifuged and analysed 20-30 mins post venepuncture (or plasma can be frozen). If haemolysed gives falsely high results.

Patient: Fasting. Avoid smoking.

16 Lactate

Sample: Fluoride oxalate plasma only. On ice and separate from cells 15-30 mins, analyse promptly. Handle with care as sweat contains large amounts of lactate. No tourniquet.

Patient: Rest 30 mins prior to test.

17 Homocysteine

Should be spun and separated with 1 hour of venepuncture.

18 Citrate Samples

Samples should be double spun and separated and frozen within 4-8 hours of sample taking, if a delay is expected with transportation to the laboratory, samples must be transported as frozen.

19 Must include patient's age, height and weight.

20 Sample types: FCRU or PCR swab or TPV or Semen.

21 Urine cytology container, ideally first catch, mid-morning specimen.

22 Must be fresh.

30 Collect sample at end of exposure.

33 Sample must be labelled by hand with first name, family name, gender and date of birth detailed on sample and form. Do not use labels other than the tube label.

34 Samples must arrive in the laboratory on the same day of sample taking or contact the laboratory.

35 Patient should be fasting and resting for 30 mins before sample taking. Samples need handling urgently.

36 Renin: Sample collected either upright/active or resting/supine (3 hours lying).

37 Provide sample time and date of collection.

38 EDTA sample should not be separated: send whole blood.

39 Urgent samples have a 3 day TAT if genotype is required for prenatal diagnosis or two weeks TAT if urgent for other factors.

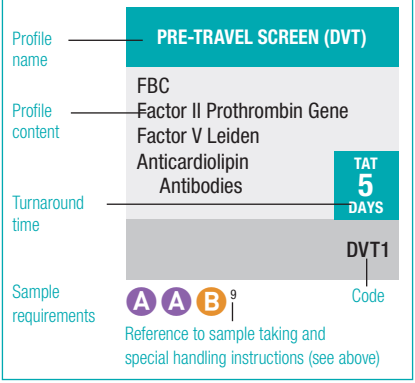
40 Informed Consent is required for these tests.

41 Recommendation for patient to attend Patient Reception for sample taking.

42 LGV can be added to a positive chlamydia sample using the same swab if requested within 4 days of receipt of result.

43 Please contact lisa.levett@tdlpathology.com for details for referring samples to the laboratory for sequencing testing.

Example of profile panel information



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Alphabetical test index

TEST	CODE	SAMPLE REQS	TAT	PAGE
1,25 Vitamin D	D3	B	5-8 days	148
2-Butanone GC	BUTA	**RU**	7 days	160
2-Furoic Acid	2FA	**RU**	10 days	160
4th Generation HIV1 & 2 Abs/p24 Ag (45 days post-contact)*	THIV	B Tiny™	4 hours	96
5 HIAA	RU5H	**PU** [1]	5 days	29
5' Nucleotidase	5NT	B	5 days	29
6-Thioguanine Nucleotides	TGN	A A	2 weeks	29
7 STI Profile by PCR (7 tests from 1 Sample)	PP12	**FCRU/PCR/TPV**	2 days	67, 77, 164
11 Deoxycorticosterone	DEOX	B	10 days	51
11 Deoxycortisol	11DC	B (Frozen)	10 days	51
16S rRNA Bacterial Gene	16S	**J**	1 week	42
17 Hydroxyprogesterone	17OH	B	5 days	51
18S rRNA Fungal Gene	18S	**J**	1 week	42
21 Hydroxylase Ab's	21HA	B (Frozen)	10 days	29
Acetone – Blood	ACTB	A or H	2 weeks	160
Acetone – Urine	ACTU	**RU**	5 days	160
Acetylcholine Receptor Autoantibodies	ACRA	B [4]	5 days	29
Acetylcholinesterase Isoenzymes	ACEI	**AF**	7 days	29
Acid Phosphatase – Total	APT	B	5 days	29
ACTH (Adreno Corticotrophic Hormone)	ACTH	A (Plasma Frozen) [41]	1 day	51
Activated Protein C Resistance	APCR	C (Frozen) [4,18]	3 days	39
Acute Viral Hepatitis Screen	AHSC	B	4 hours	79, 92
ADAMTS-13 Activity	CP13	C (Frozen)	3 days	39
ADAMTS-13 Antibody	A13A	C (Frozen)	1 month	39
Adenosine Deaminase	AD	A / B / **Fluid**	3 weeks	29
Adenovirus by PCR	ADV	A / **PCR / VS / SC**	7 days	98
Adiponectin	ADIP	B	2 weeks	29
Adrenal Cortex Antibodies	ACTX	B	2 days	79
Albumin	ALB	B	4 hours	29
Alcohol (Medical) [Do not use alcohol swab prior to sample taking]	ALCO	G [1]	4 hours	29
Alcohol (Urine)	UALC	**RU**	4 hours	29
Alcohol Profile	AP	A B B G	5-7 days	157-158, 160
Alcohol Profile 2	ALCP	A A B B G **RU**	5-7 days	157-158, 160
Aldolase	ALDO	B	5 days	29
Aldosterone	ALDN	A or B	5 days	51
Aldosterone (Urine)	UALD	**PU**	5 days	51
Alk Phosphatase Isoenzymes	APIE	B	5 days	29
Alkaline Phosphatase	ALP	B	4 hours	29
Allergen Component Profiles				145

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Alphabetical test index

TEST	CODE	SAMPLE REQS	TAT	PAGE
Allergy – Individual Allergens (see list on page 141)	ALLE	B	2 days	138
Allergy Profile (Mediterranean)	ALMD	B	2 days	137-138
Allergy Profile (Middle East)	ALME	B	2 days	137-138
Allergy Profile (UK)	ALUK	B	2 days	137-138
Allergy Profile 1 (Food & Inhalants)	1A	B B	2 days	138-139
Allergy Profile 2 (Inhalants)	2A	B	2 days	138-139
Allergy Profile 3 (Food)	3A	B	2 days	138-139
Allergy Profile 4 (Nuts & Seeds)	4A	B	2 days	138-139
Allergy Profile 5 (Children's Panel)	5A	B	2 days	138-139
Allergy Profile 6 (Shellfish)	6A	B	2 days	138, 140
Allergy Profile 7 (Finfish)	7A	B	2 days	138, 140
Allergy Profile 8 (Cereal – singles)	8A	B	2 days	138, 140
Allergy Profile 9 (Antibiotics)	9A	B	2 days	138, 140
Allergy Profile 10 (Insects)	10A	B	2 days	138, 140
Allergy Profile 11 (Combined Shellfish/Finfish)	11A	B	2 days	138, 140
Allergy Profile 12 (Milk & Milk Proteins)	12A	B	2 days	138, 140
Allergy Profile 13 (Stone fruit/ Rosaceae family)	13A	B	2 days	138, 140
Alpha 1 Antitrypsin (Serum)	A1AT	B	1 day	29
Alpha 1 Antitrypsin (Stool)	A1AF	**RF**	10 days	29
Alpha 1 Antitrypsin Genotype – PI*M, PI*S, PI*Z	GENE	Requires patient informed consent A [9]	4 weeks	29
Alpha 1 Glycoprotein	OROS	B (Frozen)	5 days	29
Alpha 1 Microglobulin	A1MG	**RU** [1,22]	10 days	29
Alpha 2 Macroglobulins	A2MG	B	5 days	29
Alpha Feto Protein	AFP	B	4 hours	51, 101
Alpha Feto Protein (Maternal)	AFPM	B	4 hours	29
Alpha Gal Components (related to red meat)	ZZ37	B	2 days	145
ALT (Alanine Aminotransferase) (SGPT)	ALT	B	4 hours	29
Alternaria Components	ZZ1	B	2 days	145
Aluminium (Blood)	ALUM	K	7 days	29, 159
Aluminium (Urine)	ALUU	**RU**	1-2 weeks	160
Amenorrhoea Profile	AMEN	B	4 hours	51, 57
Amikacin Level (State dose)	AMIK	B [4]	4 hours	133
Amino Acid (Serum/Plasma)	AMIN	B	7 days	29
Amino Acid Quantitative (Urine)	UAAQ	**RU**	7 days	29
Amino-Laevulinic Acid (Urine)	RUAL	100mls **PU**	5 days	29
Amitriptyline	AMTR	A [4]	5 days	134
AML/ALL Molecular MRD – NPM1, PML-RARA, CBFB-MYH11, RUNX1-RUNX1T1, ETV6-RUNX1	GENE	Requires patient informed consent **Bone Marrow** / A	5 days	109
Ammonia	AMMO	A (Frozen) [15]	4 hours	29

Alphabetical test index

TEST	CODE	SAMPLE REQS	TAT	PAGE
Amniocentesis – rapid BOBs aneuploidy diagnosis for all chromosomes (5 days) + culture (10-15 days)	ABK	**AF** [9]	5-15 days	109
Amniocentesis – rapid PCR diagnosis for common aneuploidies (2 days) + culture (10-15 days)	APCC	**AF** [9]	2-15 days	109
Amoebic (E. histolytica) Antibodies	AFAT	B	2 days	88
Amoebic (E. histolytica) PCR	AMAG	**RF**	2 days	88
Amphetamines – Blood	AMPB	B B	5 days	157
Amylase	AMY	B	4 hours	29
Amylase (Urine)	UAMY	**CU**	4 hours	29
Amylase Isoenzymes	AMYI	B	5 days	29
Amyloidosis (Amyloid A Protein)	SAA	B	5 days	29
Anaemia Profile	ANAE	A A B	2 days	38, 41
Anafranil (Clomipramine)	CHLO	A	7 days	134
ANCA (Anti-Neutrophil Cytoplasmic Abs)	ANCA	B	2 days	79
Andropause Profile	ANDP	B B	8 hours	51, 56
Androstanediolglucoronide	ANDG	B	3 weeks	29
Androstenedione	ANDR	B (Frozen)	4 days	51
Angiotensin II	ANG2	A (Frozen)	2 weeks	29
Angiotensin Converting Enzyme	ACE	B	4 hours	29
Angiotensin Converting Enzyme – CSF	ACEF	**CSF** (Frozen)	2 weeks	29
Antenatal Profile	ANTE	A A [33] B B B G	3 days	38, 41
Anti-Actin Antibodies	AAA	B	5 days	79
Anti-Basal Ganglia Antibodies	ABGA	B	3 weeks	79
Anti-CCP Antibodies (RF)	CCP	B	2 days	79
Anti-Liver Cytosol Antibodies	ALCA	B	5 days	79
Anti-MOG [Myelin Oligodendrocyte Glycoprotein] Antibodies	AMOG	B	3 weeks	79
Anti-MUSK Antibodies	MUSK	B	2 weeks	79
Anti-Phosphatidylserine Antibodies	PHTS	B	5 days	79
Anti-Phospholipase A2 Receptor	AA2R	B	3 weeks	79
Anti-Ri Antibodies	RIAB	B	3 days	79
Anti-SLA (Soluble Liver Antigen) Abs	LSA	B	10 days	79
Anti-Xa Apixaban monitoring	APIX	C (Frozen)*	3 days	39
Anti-Xa Fondapariux Monitoring	FOND	C (Frozen)*	3 days	39
Anti-Xa LMWH monitoring	LMWX	C (Frozen)*	3 days	39
Anti-Xa Rivaroxaban monitoring	RIVA	C (Frozen)*	3 days	39
Antidiuretic Hormone	ADH	A A (Plasma Frozen) [4]	10 days	51
Antimony (Urine)	ANTI	**RU** [30]	10 days	29
Antimullerian Hormone (AMH Plus)	AMH	B	4 hours	29, 51, 56
Antinuclear Antibodies (titre & pattern)	ANAB	B	2 days	79
Antistaphylolysin Titre (SGOT)	ASTT	B	3 days	79
Antistreptolysin Titre/ASOT	ASLT	B	2 days	79

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Alphabetical test index

TEST	CODE	SAMPLE REQS	TAT	PAGE
Antisulfatide Antibodies	ASA	B	5 weeks	79
Antithrombin III	A111	C (Frozen)[4,9,18]	3 days	39
AP50 Alternative Hemolytic Complement	AP50	B (Frozen)	2 weeks	29
Apolipoprotein A1	APOA	B	3 days	29
Apolipoprotein B	APOB	B	3 days	29
Apolipoprotein C	APOC	B	3 months	29
Apolipoprotein E (12 hours fasting)	APOE	B (fasting)	5 days	30
Apolipoprotein E genotype – E2, E3, E4	APEG	A[9]	5 days	110
Apple Components	ZZ36	B	2 days	145
APTT/KCCT	KCCT	C[18]	4 hours	38
Aquaporin 4 Antibodies (Neuromyelitis Optica)	AQUA	B	2 weeks	79
Arbovirus Antibodies/Abs	ARBO	B[9,14]	3 weeks	98
Array CGH (Comparative Genomic Hybridisation)	CGH	**CVS / AF /** A H[9]	10 days	110
Arsenic (Blood)	ARS	A or H	5 days	30, 159
Arsenic (Urine)	ARSE	**RU**[30]	5 days	30, 160
Arylsulphatase A	ARYL	H[5,6]	8 weeks	30
Ascariasis Serology	ASC	B	5 days	79
Ashkenazi Jewish Carrier Screen	GENE	Requires patient informed consent A[9]	4 weeks	110
Aspartate Transaminase (AST) (SGOT)	AST	B	4 hours	30
Aspergillus Components	ZZ2	B	2 days	145
Aspergillus Precipitins	ASPP	B	5 days	42
Atypical Antibody Screen (handwritten tube label)	AASC	A[22,33]	2 days	38
Atypical Pneumonia Screen	APS	B	2 days	98, 100
Autoantibody Profile I	AUTO	B	2 days	79, 87
Autoantibody Profile II	ENDO	B	2 days	79, 87
Avian Precipitins (11 Species)	AVIA	B	5 days	79
Azoospermia – karyotype + cystic fibrosis screen + polyT(5T) + Y deletions	GRP	A H[9]	10-15 days	110
Babesia Antibodies	BABE	B	3 weeks	79
Bancroftia/Oncerciasis/Filarial Antibodies	TFIF	B[14]	2 weeks	98
BCR/ABL Quantitative – fusion gene sizes p190 + p210 – **MUST arrive in the laboratory within 48 hours, before 12pm on Fridays**	BCRA	A A[9]	10 days	111
Becker Muscular Dystrophy – deletions/duplications	DMD	A[9]	10 days	111
Behcet's Disease – HLA Tissue Typing B*51	B51	A[9]	10 days	111
Bence-Jones Protein	RBJP	1 x 30mls (**RU**)	5 days	30
Benzene	BENZ	**J**[1,6]	3 days	160
Beta 2 Glycoprotein 1 Abs	B2GP	B	5 days	79

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Beta 2 Microglobulin (Serum)	B2MG	B	2 days	30, 160
Beta 2 Microglobulin (Urine)	UB2M	**RU**	3 days	30, 160
Beta Carotene	CARO	B	5 days	148
Beta D Glucan	XBDG	B	3 days	42
Beta HCG (Oncology)	HCGQ	B	4 hours	101
Beta HCG (Quantitative)	QHCG	B	4 hours	51
Beta-Glucuronidase (Sly Disease)	BGLU	H H [9,4]	8 weeks	30
Bicarbonate	HCO3	B	4 hours	30
Bile Acids – Serum	BILE	B	4 hours	30
Bilharzia (Schistosome) Antibody Screen	BILH	B [14]	10 days	88
Bilharzia (Urine)	USCH	Mid-morning terminal urine following exercise [14]	1-2 days	88
Bilirubin (Direct/Indirect)	DBIL	B	4 hours	30
Bilirubin (Total)	BILI	B	4 hours	30
Bilirubin (Urine)	UBIL	**RU**	1 day	30
Biotin	BIOS	B	5 days	148
Biotinidase	BIOT	H (Frozen plasma) [4]	3 weeks	30
Birch Components	ZZ3	B	2 days	145
Bismuth	BISM	B	5 days	30
BK Polyoma Virus by PCR	BKPV	A / B / **RU**	5 days	98
Bleeding and Platelet Gene Panel (known familial variants) – Contact lab	GENE	Requires patient informed consent A A	6 weeks	111
Bleeding and Platelet Gene Panel (unknown familial variants) – Contact lab	GENE	Requires patient informed consent A A	12 weeks	111
Blood Culture#	BCUL	2 x **BC** [4]	6 days +	42
Blood Film Examination	FILM	A	1 day	38
Blood Group †	ABO	A [22,33]	2 days	38
BNP (NT-pro BNP)	BNP	B	4 hours	30, 51
Bone Alkaline Phosphatase	BALP	B (Frozen)	2 weeks	30
Bone Marrow (Aspirate)	BMAS	**J** [1]	14 days	40
Bone Marrow (Trephine Biopsy)	BMI	**J** [1]	3 days	40
Bone Screen	BONE	B **CU**	4 hours	30, 37
Bone Screen (Bloods only)	BON2	B	4 hours	30, 37
Borrelia Antibodies (Lyme Disease) IgG, IgM	BORR	B [9,14]	2 days	79, 88
Borrelia Antibodies (Lyme Disease) IgM	BORM	B	2 days	79, 88
Borrelia Confirmation (Immunoblot)	BORC	B [9,14]	10 days	79, 88
BRAF V600E mutation by PCR for Hairy Cell Leukaemia	GENE	Requires patient informed consent **Bone Marrow** / A	5 days	111
Brazil Components	ZZ4	B	2 days	145
Breast Cancer – BRCA1 + BRCA2 only gene sequencing + deletions/duplications	GENE	Requires patient informed consent A	4 weeks	111

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Breast Cancer NGS Panel – full gene sequencing	GENE	Requires patient informed consent (A)(A)[9,11]	4 weeks	101
Bromide	BROM	(B)	3 days	160
Brucella Serology	BRUC	(B)[9]	2-3 weeks	79
BUN (Blood Urea Nitrogen)	BUN	(B)	4 hours	30
C-KIT D816V mutation by PCR for Mastocytosis	GENE	Requires patient informed consent **Bone Marrow** / (A)	5 days	111
C Peptide	CPEP	(B)	3 days	51
C Reactive Protein	CRP	(B)	4 hours	30
C Reactive Protein (High Sensitivity)	HCRP	(B)	4 hours	30
C1 Esterase Inhibitor	C1EI	(B)	5 days	79
C1 Esterase: Function & Total	FC1E	(C)(C) (Plasma Frozen)[4,18]	10 days	30
C1q Binding Immune Complex	IMCP	(B)	5 days	30
C3 Complement	C3	(B)	4 hours	79
C3/C4 Complement	COMP	(B)	4 hours	79
C4 Complement	C4	(B)	4 hours	79
CA 15-3	C153	(B)	4 hours	101
CA 19-9	C199	(B)	4 hours	101
CA 50	CA50	(B)	5 days	101
CA 72-4	C724	(B)	5 days	101
CA 125	C125	(B)	4 hours	101
Cadmium (Blood)	CADM	(A) or (H)	5 days	30, 159
Cadmium (Urine)	URCD	**RU**[30]	5 days	30, 160
Calcitonin	CATO	(B) (Frozen)[4]	1 day	51
Calcium	CA	(B)	4 hours	30
Calcium (24 hour Urine)	UCA	**PU**	4 hours	30
Calcium/Creatinine Ratio	CACR	**RU** (B)	4 hours	30
Calprotectin	CALP	**RF**	5 days	79
Calprotectin/Elastase Profile	CEP	**RF**	5 days	79, 87
Campylobacter Jejuni Antibodies	CJAB	(B)	5 days	42
Candida (Culture)	CANC	**STM/CS**	2-4 days	42
Candida Antibodies	CANA	(B)	5 days	42
Candida Antigen	CCAG	(B)	5 days	42
Cannabinoids (Urine) Screen	CANN	**RU**	1 day	157
Carbamazepine (Tegretol)	CARB	(B)	4 hours	134
Carbapenemase producing organism screen	MDR	**STM** (rectal)	4-5 days ‡	42
Carbohydrate Deficient Glycoprotein	CDG	(B)	2 weeks	30
Carbohydrate Deficient Transferrin (CDT)	CDT	(B)[4]	3 days	30
Carboxyhaemoglobin	CBHB	(A)	1 week	38
Carcino Embryonic Antigen	CEA	(B)	4 hours	101
Cardiac Enzymes (not chest pain)	CENZ	(B)	4 hours	30
Cardiolipin Antibodies (IgG+IgM)	ACAB	(B)	2 days	79
Cardiovascular Risk Profile 1	PP10	(B)(B)	3 days	30, 37

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Cardiovascular Risk Profile 2	PP11	B B B C [3,4]	3 days	30, 37
Carnitine – Free & Total	CARN	H H (Frozen Plasma)	10 days	30
Carotenes	CARO	B [13]	5 days	148
Carrier Screen (Ashkenazi Jewish)	GENE	Requires patient informed consent A [9]	4 weeks	112, 128
Carrier Screen (Ashkenazi Jewish) – Partnered Report	GENE	Requires patient informed consent A [9]	4 weeks	112, 128
Carrier Screen (Pan-Ethnic)	GENE	Requires patient informed consent A [9]	4 weeks	112, 128
Carrier Screen (Pan-Ethnic) – Partnered Report	GENE	Requires patient informed consent A [9]	4 weeks	112, 128
Cartilage Antibodies	ACA	B	5 days	79
Cashew Components	ZZ35	B	2 days	145
Cat Components	ZZ5	B	2 days	145
Cat Scratch Fever (Bartonella IgG+IgM)	CAT	B	5 days	98
Catecholamines (Plasma)	CATE	A A (Plasma Frozen) [4]	5 days	51
Catecholamines (Urine)	UCAT	PU [1]	5 days	51
CCP Antibodies (RF)	CCP	B	2 days	79
CD3/CD4/CD8	LYSS	A [10]	1 day	40, 96, 98
CD16	CD16	A [4]	1 day	40
CD19 B Cells	CD19	A [4]	1 day	40
CD20	CD20	A [10]	2 days	40
CD25	CD25	A [10]	2 days	40
CD56	CD56	A [4]	1 day	40
CD57	CD57	A	1 day	40
Celery Components	ZZ6	B	2 days	145
Centromere Autoantibodies	CENT	B	2 days	79
Ceruloplasmin	CERU	B	1 day	30, 148
Cervical Cytology	PAPT will include HPVH	TPV	3 days	166
CH50 (Classical pathway)	CH50	B (Frozen) [4]	4 days	79
Chagas Disease Serology (S.American Trypanosomiasis) T. Cruzi	CHGA	B [9,14]	10 days	79
Chest Pain Profile	CPP	B	STAT	30, 37
Chikungunya Virus Abs	CHIK	B [9,14]	10 days	98
Chlamydia (PCR swab)	SPCR	PCR	2 days	67
Chlamydia (Thin Prep)	TPCR	TPV	2 days	67, 164
Chlamydia (Urine)	CPCR	FCRU	2 days	67
Chlamydia Species Specific (MIF) Ab Screen	CHAB	B	2 days	80, 87
Chlamydia/Gonorrhoea (PCR Swab)	SCG	PCR	2 days	67
Chlamydia/Gonorrhoea (Rectal)	RSCG	PCR	2 days	67
Chlamydia/Gonorrhoea (Thin Prep)	TCG	TPV	5 days	67, 164

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Chlamydia/Gonorrhoea (Throat)	TSCG	**PCR**	2 days	67
Chlamydia/Gonorrhoea (Urine)	CCG	**FCRU**	2 days	67
Chlamydia/Gonorrhoea/ Trichomonas by PCR	CCGT	**FCRU/PCR/TPV**	2 days	67, 77
Chloride	CL	B	4 hours	30
Cholesterol	CHO	B	4 hours	30
Cholesterol (Familial Hypercholesterolaemia)	GENE	Requires patient informed consent AA [9]	7 weeks	30, 116
Cholinesterase (Serum/Pseudo)	CHPS	B	4 hours	30, 160
Chromium (Blood)	CHRO	A	5 days	31, 159
Chromium (Urine)	URCR	**RU** [30]	10 days	31, 160
Chromogranin A	CGA	B	5 days	31
Chromogranin A & B	MTAB	**J** [1]	3 weeks	31
Chromosome Analysis (Amniocentesis) – culture only	ACUL	**AF** [9]	10-15 days	112
Chromosome Analysis (Amniocentesis) – rapid BOBs aneuploidy diagnosis for all chromosomes (5 days) + culture (10-15 days)	ABK	**AF** [9]	5-15 days	113
Chromosome Analysis (Amniocentesis) – rapid PCR diagnosis for common aneuploidies (2 days) + culture (10-15 days)	APCC	**AF** [9]	2-15 days	113
Chromosome Analysis (Blood)	KARY	H [9]	2-3 weeks	113
Chromosome Analysis (Chorionic Villus) – rapid BOBs aneuploidy diagnosis for all chromosomes (5 days) + culture (10-15 days)	CBK	**CVS** [9]	5-15 days	113
Chromosome Analysis (Chorionic Villus) – rapid PCR diagnosis for common aneuploidies (2 days) + culture (10-15 days)	CVPC	**CVS** [1,9]	2-15 days	113
Chromosome Analysis (Chorionic Villus) – culture only	CVSC	**CVS** [1,9]	10-15 days	113
Chromosome Analysis (Products of Conception) – reflex to BOBs testing if culture fails to grow – reflex to BOBs testing if culture fails to grow	PROC	**Placental Sample** [1,9]	20-25 days	113
Chromosome Analysis (Products of Conception) – BOBs rapid aneuploidy diagnosis for all chromosomes (5 days) + culture (25 days)	PBK	**Placental Sample** [1,9]	5-25 days	113
Chromosome Analysis (Solid Tissue)	PROC	**Fetal tissue** [1,9]	4-5 weeks	113
Chromosome Analysis (Stem Cells)	STEM/SUSP	**Culture/Fixed cells**	Contact lab	113
Chronic Fatigue Syndrome Profile	VIP1	A + B [10]	5 days	80, 87
Citrate (Blood)	CITR	B	5 days	31
Citrate (Urine)	UCIT	**CU** (Frozen)	5 days	31

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TEST	CODE	SAMPLE REQS	TAT	PAGE
CK (MB Fraction)	CKMB	B	4 hours	31
CK Isoenzymes	CKIE	B	5 days	31
Clobazam	CLOB	A	5 days	134
Clomipramine (Anafranil)	CHLO	A	7 days	134
Clonazepam	CLON	A	7 days	134
Clostridium Difficile Toxin by PCR	CLOS	**RF***	2 days	42
Coagulation Profile 1	CLPF	C [18]	4 hours	38, 41
Coagulation Profile 2	CLOT	A C [18]	4 hours	38, 41
Cobalt (Blood)	COB	A	5 days	31
Cobalt (Serum)	COBB	B	5 days	31, 159
Cobalt (Urine)	COBA	**RU** [30]	5 days	31, 160
Cocaine (Urine) Screen	UCOC	**RU**	1 day	157
Coeliac Disease – HLA DQ2/DQ8 Genotype	Q2Q8	A [9]	10 days	80-81
Coeliac/Gluten Profile 2	GSA2	A B	10 days	80-81
Coeliac/Gluten Sensitivity Profile	GSA	B	2 days	80-81
Coenzyme Q10	CQ10	B	2 weeks	31
Cold Agglutinin	CAGG	**J** [1]	5 days	31
Collagen (Type I, II, IV) Antibodies	COAB	B	10 days	31
Collagen Type 1 Cross-Linked N-Telopeptide – NTX	NTX	**2nd EMU**	2 weeks	31
Colloid Antigen-2 Antibodies	CA2A	B	2 weeks	80
Colorectal Cancer NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent A A [9,11]	4 weeks	113
Comparative Genomic Hybridisation (Array CGH)	CGH	**CVS / AF /** A H [9]	10 days	113
Complement C1q	C1Q	B	5 days	31
Complement C2	C2	B	10 days	31
Complement C5	C5A	B	2 weeks	31
Complement C6	C6	B (Frozen)*	5 weeks	31
Complement C7	C7	B (Frozen)*	5 weeks	31
Complement C8	C8	B (Frozen)*	5 weeks	31
Complement C9	C9	B (Frozen)*	5 weeks	31
Complement Factor H	FACH	B	3 weeks	31
Complex PSA (Prostate Specific Ag)	CPSA	B	3 days	101
Congenital Absence of Vas Deferens – karyotype + cystic fibrosis screen + polyT(5T) + Y deletions	GRP	A H [9]	10-15 days	113
Coombs (Direct Antiglobulin Test)	COOM	A	2 days	40
Copper (Serum)	COPP	B	5 days	31, 148, 159
Copper (Urine)	URCU	**CU**	5 days	31, 160
Cortisol	CORT	B	4 hours	51
Cortisol (Urine)	UCOR	**CU**	5 days	51
Cortisol Binding Globulin	CBG	B (Frozen)	1 month	31

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	TEST	CODE	SAMPLE REQS	TAT	PAGE
	Cotinine (Serum)	COT	B	4 days	80
	Cotinine (Urine)	COTT	**RU**	2 days	31
	COVID-19 (SARS-CoV-2) Abbott IgG Antibody	GCOV	**SST / Serum** B * (Venous only)	24 hours	80
	COVID-19 (SARS-CoV-2) Abbott IgM Antibody	MCOV	**SST / Serum** B * (Venous only)	24 hours	80
NEW	**COVID-19 (SARS-CoV-2) Rapid RNA Sequencing** – Contact Lisa Levett for test requirements: Lisa.Levett@tdlpathology.com	COSQ	**RNA** or **PCR swab** [43]	48 hours	98
	COVID-19 (SARS-CoV-2) RNA by PCR	NCOV	**PCR Swab** (nasal/pharyngeal)	24 hours	98
NEW	**COVID-19 (SARS-CoV-2) Roche Elecsys Anti-SARS-CoV-2 S (SPIKE)**	SCOV	**SST/Serum** B (Venous/ Capillary self-collection*)	24 hours	80
	COVID-19 (SARS-CoV-2) Roche Elecsys Anti-SARS-CoV-2 Total Antibody	TCOV	**SST / Serum** B * (Venous and Capillary self-collection)	24 hours	80
NEW	**COVID-19 (SARS-CoV-2) T-SPOT®.COVID**	TCEL	H***	3 days	80
	COVID-19/FLU/RSV Screen	FLU4	**PCR** nasopharyngeal	2 days	98, 100
	Cow's Milk Components	ZZ7	B	2 days	145
	Coxsackie Antibodies (IgM)	COXM	B	10 days	98
	Creatine Kinase (CK, CPK)	CKNA	B	4 hours	31
	Creatinine	CREA	B	4 hours	31
	Creatinine (Urine)	UCR	**CU**	4 hours	31
	Creatinine Clearance	CRCL	B **CU**	4 hours	31
	Cri du Chat Syndrome – BOBs (5 days) + karyotype (15 days)	PBOB, KARY	**CVS** / **AF** / A H [9]	5-15 days	114
	Cri du Chat Syndrome – BOBs only	PBOB	**CVS** / **AF** / A [9]	5 days	114
	Crosslaps (Serum DPD)	SDPD	B (Freeze within 24 hours)	4 days	31
	Cryoglobulins	CRYO	**J** [6]	10 days	31
	Cryptococcal Antigen	CRYC	**Serum** or **CSF**	1 day	42
	Cryptosporidium	CRPO	**RF**	2 days	42
	Cryptosporidium Detection by PCR	CRPA	**RF**	2 days	88
	CSF for Microscopy and Culture	CSF	**CSF**	1-3 days	42
	CSF Screen by PCR	VPCR	**CSF**	2 days	98, 100
	CT/GC/Trichomonas/Mgen (PCR Swab)	SGTM	**PCR Swab**	2 days	67, 77
	CT/GC/Trichomonas/Mgen (Urine)	CGTM	**FCRU**	2 days	67
	Culture (Any site)	CULT		up to 5 days	42
	CVS PCR for common aneuploidies (2 days) + culture (10-15 days)	CVPC	**CVS** [1,9]	2-15 days	114
	CVSBOBs – rapid BOBs aneuploidy diagnosis for all chromosomes (3-5 days) + culture (10-15 days)	CBK	**CVS** [9]	5-15 days	114
	CVSBOBs only – rapid aneuploidy diagnosis for all chromosomes + common microdeletion syndromes	CBOB	**CVS** [9]	5 days	114
	Cyclic Amp (Urine)	CAMP	**CU** (Frozen)	5 days	31
	Cyclosporin (Monoclonal)	CYCL	A	1 day	31

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Cyfra 21-1	CY21	B	4 days	101
CYP450 2D6 Genotyping	TGEN	A [9]	10 days	114
Cystatin C	CYCC	B	5 days	31
Cystic Fibrosis (139 common mutations) – reflex to Poly T when required	CFS	A [9]	5-7 days	114
Cystine – Quantitative (Beta-CTX)	QCYS	**PU**	5 days	31
Cytomegalovirus (CMV-DNA) Amnio	CMVD	**AF**	5 days	98
Cytomegalovirus (IgG/IgM) Antibodies	CMV	B	4 hours	98
Cytomegalovirus (PCR) Semen	SCVM	**Semen**	7 days	98
Cytomegalovirus (PCR) Urine	CMVU	**RU**	5 days	98
Cytomegalovirus Avidity	CMAV	B	10 days	98
Cytomegalovirus DNA (PCR)	CMVP	A	5 days	98
Cytomegalovirus Resistance	CMVR	A A (2 x 6mls)	21 days	98
D-Dimers (Fibrinogen Degradation Products)	DDIT	C [4]	4 hours	38
Dengue Fever PCR	DPCR	A or B [9,14]	2 weeks	98
Dengue Virus Serology	DENG	B [9,14]	5 days	88
Deoxypyridinoline (DPD) – Serum	SDPD	B (Freeze within 24 hours)	4 days	31
Deoxypyridinoline (DPD) – Urine	DPD	**EMU**	4 days	31
DHEA	DHEX	B	7-10 days	51
DHEA – Urine (Dehydroepiandrosterone)	UDHE	**CU**	3 weeks	51
DHEA Sulphate	DHEA	B	4 hours	51
NEW **Diabetes** – Obesity NGS Panel	GENE	Requires patient informed consent A	6 weeks	114
Diabetic Profile 1	DIAB	A G	8 hours	31, 37
Diabetic Profile 2	DIA2	A G **RU**	2 days	32, 37
Diamine Oxidase Activity	DIAM	B	2 weeks	32
Diazepam (Valium)	DIAZ	A	7 days	134
DiGeorge Syndrome (22q11 & 10p14 deletion) – BOBs (5 days) + karyotype (15 days)	DGB, KARY	**CVS** / **AF** / A H [9]	5-15 days	114
DiGeorge Syndrome (22q11 & 10p14) – BOBs only	DGB	**CVS** / **AF** / A [9]	5 days	114
Digoxin	DIGO	B	4 hours	134
Dihydrotestosterone	DHT	B B	7 days	51
Diphtheria Antibodies	DIPH	B	5 days	80
DL1-DL12 Screening Profiles				24-25
DNA (Double Stranded) Antibodies IgG	DNAA	B	2 days	80
DNA (Single Stranded) Antibodies	DNAS	B	5 days	80
DNA Extraction & Storage – 3 years (longer upon request)	XDNA	A [9]	20 days	114
DNA Identity Profile – 15 STR markers	DNAF	A [9,11]	10 days	115
Duchenne Muscular Dystrophy – deletions/duplications only	DMD	A [9]	10 days	115
Dog Components	ZZ8	B	2 days	145

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Down Syndrome Risk Bloods only (Risk to be calculated by clinician)	HCGF/PAPA	B	4 hours	51
Down Syndrome Risk Profile (2nd trimester) Quad	DRP	B DRP form[7,8]	2 days	51
Down Syndrome Risk Profile with risk calculation first trimester	DRP	B DRP form + image of scan[7,8]	2 days	51
Doxepin Level (Sinequan)	DOXE	A	10 days	160
Drugs of Abuse from Blood without Chain of Custody	DOAP	B	5 days	157-158
Drugs of Abuse Profile – Random Urine Sample/No Chain of Custody	DOA	**RU**	2 days (5 days with LC-MS/MS confirmation)	157-158
Drugs of Abuse Profile – Random Urine Sample/No Chain of Custody Plus Alcohol	DOA3	**RU**	2 days (5 days with LC-MS/MS confirmation)	157-158
Drugs of Abuse Profile – With Chain of Custody	DOAL	**RU/CoC Collection Containers**[1,2]	2 days (5 days with LC-MS/MS confirmation)	157-158
Drugs of Abuse Profile – Without Chain of Custody	DOAN	**RU**[2]	2 days (5 days with LC-MS/MS confirmation)	157-158
DVT/Pre-travel Screen	DVT1	A A B[9]	5 days	38, 41, 88-89, 115, 132
Early CDT-Lung	CDTL	B	10 days	101
Early Detection Screen PCR/NAAT	STDX	A 10mls or 2 x 4mls (Vacutainer only)	3 days	67, 77
Early Detection Screen PCR/ NAAT with Syphilis	STXX	B A 10mls or 2 x 4mls	3 days	67, 77
Echinococcus (Hydatid) Antibodies	EFAT	B[9,14]	5 days	80, 88
Eczema Provoking Profile	ALEC	B	2 days	138
Egg Components	ZZ9	B	2 days	145
Ehlers-Danlos Syndrome/Aneurysm/ Connective Tissue Disorders NGS Panel – full gene sequencing + deletions/duplications	GENE	Requires patient informed consent A A[9]	7 weeks	115
Ehrlichiosis Antibodies	EHRL	B[9,14]	10 days	80
Elastase (Faecal)	ELAS	**RF**	5 days	32
Elastase/Calprotectin Profile	CEP	**RF**	5 days	80, 87
Electrolytes	ELEC	B	4 hours	32
Electrolytes (Urine)	UELE	**CU**	4 hours	32
ELF/Enhanced Liver Fibrosis	ELF	B	5-7 days	32
Endometrial Biopsy Immune Profiling	23RF	**J** (Contact Referrals)	2 weeks	54
Endomysial Antibodies (IgA)	AEAB	B	2 days	80
Enteric Organism Rapid Detection	EORD	**RF**	2 days	88-89
Eosinophil Cationic Protein	ECP	B	7 days	32
Epanutin (Phenytoin)	PHEN	B	4 hours	134

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Epstein-Barr Virus Antibodies IgG/IgM	EBVA	A or B	2 days	98
Epstein-Barr Virus PCR	EBVQ	A	5 days	98
Erectile Dysfunction Profile	IMPO	A B B G	3 days	51, 56
Erythropoietin	ERY	B	4 days	40, 134
ESR	ESR	A	4 hours	38
Essential Fatty Acid Profile (Red Cell)	EFAR	A [4]	10 days	148
Ethosuximide	ETHO	A	7 days	134
Extractable Nuclear Antibodies (nRNP, Sm, Ro, La, Jo1, Scl70) CENP-B	ENA	B	2 days	80
Factor II Assay	FAC2	C (Frozen) [9,18]	5 days	39
Factor II Prothrombin – G20210A mutation	FX2	A [9]	5 days	115
Factor V Assay	FAC5	C (Frozen) [9,18]	5 days	39
Factor V Leiden – G1691A mutation	FX5	A [9]	5 days	115
Factor VII Assay	FAC7	C (Frozen) [9,18]	5 days	39
Factor VIII Assay	FAC8	C (Frozen) [9,18]	5 days	39
Factor VIII Inhibiting Antibody	F8IA	C C [18]	2 weeks	39
Factor IX Assay	F1X	C (Frozen) [9,18]	5 days	39
Factor IX Inhibiting Antibody	F9IA	C C [18]	2 weeks	39
Factor X Assay	FX	C (Frozen) [9,18]	5 days	39
Factor XI Assay	FX1	C (Frozen) [9,18]	5 days	39
Factor XII Assay	FX11	C (Frozen) [9,18]	5 days	39
Factor XIII Assay	FA13	C (Frozen) [9,18]	5 days	39
Faecal Elastase	ELAS	**RF**	5 days	32
Faecal Fat (1 Day Collection)	TFFA	**LF** [6]	5 days	32
Faecal Fat (3 day)	FFAT	**LF** [6]	5 days	32
Faecal Lactoferrin	FLAC	**RF**	5 days	32
Faecal Occult Blood/FOB (immunochemical/FIT)	QFIT	**QFIT**	1 day	42
Faecal Sugar Chromatography	FCRO	**RF** (Frozen)	3 weeks	32
Faecal Urobilinogen	FURO	**RF**	5 days	32
Familial Hypercholesterolaemia – LDLR + APOB + PCSK9 + LDLRAP1 screening	GENE	Requires patient informed consent A A [9]	7 weeks	116
Farmers Lung Precipitins	FARM	B	5 days	80
Fasciola Hepatica Antibodies (Liver Fluke)	FASC	B	2 weeks	80
FASTest Sexual Health Screening Tests				71
Fat Globules in Faeces	FGLO	**RF**	1 week	32
Female Hormone Profile	FIP	B	4 hours	51, 56
Ferritin	FERR	B	4 hours	32
Fever (Recurrent) Screening	GENE	Requires patient informed consent A A	10 weeks	116
Fibrinogen	FIB	C [4,18]	4 hours	38
Fibrotest (Liver Fibrosis)	FIBT	B	2 weeks	32

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Giardia Serology	GIAR	B	5 days	80
Gliadin Antibodies (IgG) (deamidated)	AGAB	B	2 days	80
Globulin	GLOB	B	4 hours	32
Glomerular Basement Membrane Abs	AGBM	B	2 days	80
Glucagon	GLUG	**J**[1]	10 days	32
Glucose	RBG	G	4 hours	32
Glucose Challenge Test/Mini-GTT	RBGM	G	1 day	133
Glucose Tolerance Test (Extended Plus)	GTTX	7x G 7x**RU**	1 day	133
Glucose Tolerance Test (Extended)	GTTE	5x G 5x**RU**	1 day	133
Glucose Tolerance Test (Short)	GTTS	2x G 2x**RU**	1 day	133
Glucose Tolerance Test/OGTT	GTT	3x G 3x**RU**	1 day	133
Glucose Tolerance with Growth Hormone	GTT+GHDF	3x B[35] 3x G 3x**RU**	1 day	133
Glucose Tolerance with Insulin	GTTI	3x B 3x G 3x**RU**	1 day	133
Glutamic Acid Decarboxylase Antibodies (GAD 65)	GAD	B	5 days	80
Glutathione (Red Cell)	GLUR	H[5]	5 days	148
Glutathione Peroxidase	GLPX	H	5 days	148
Gluten Allergy Profile	GLUT	A B B	10 days	80-81, 138
Gluten Sensitivity Evaluation	GSA	B	2 days	80-81
Gluten/Coeliac Profile 2	GSA2	A B	10 days	80-81
Glycan Determinants	ZZ27	B	2 days	145
Gonorrhoea (Culture)	GONN	**CS**‡‡‡	2-3 days	42, 67
Gonorrhoea (PCR swab)	SGON	**PCR**	2 days	67
Gonorrhoea (Thin Prep)	TGON	**TPV**	2 days	67
Gonorrhoea (Urine)	CGON	**FCRU**	2 days	67
Granulocyte Immunology	GRIM	A A	2 weeks	80
Group B Strep	GBSX	2 x **STM**	3-4 days	42
Growth Hormone (Fasting)	GH	B[7,35]	4 hours	51
Gut Hormone Profile	GUTP	A A (Frozen within 15 minutes)[41]	3 weeks	51
H. pylori Antibodies (IgG)	HBPA	B	2 days	80
H. pylori Antigen (Breath)	HBQT	**J**	5 days	80
H. pylori Antigen (Stool)	HBAG	**RF**	3 days	42
H. pylori Culture	HPCU	**J**	3 weeks	42
Haematology Profile	PP3	A	4 hours	38, 41
Haemochromatosis – HFE common mutations C282Y + H63D	HMD	A[9]	3 days	32
Haemoglobin	HB	A	4 hours	38
Haemoglobin Electrophoresis	HBEL	A	4 days	40
Haemophilus B Influenzae Antibodies	HINF	B	5 days	80
Haemophilus ducreyi by PCR	DUCR	**PCR**	7 days	67
Haemosiderin (Urine)	HSID	**EMU**	2 weeks	32
Hams Test for PNH (CD59)	HAMS	**J**[34,5]	5 days	40

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Hantavirus Serology	HANV	B [9]	10 days	98
Haptoglobin	HAPT	B	5 days	32
Harmony® Prenatal Test (Non-Invasive Prenatal Testing) – common aneuploidy screening from maternal blood	NIPT	**J/Special tubes** [1]	3-5 days	117
Hazelnut Components	ZZ11	B	2 days	145
HbA1c	GHB	A	6 hours	32
HDL Cholesterol	HDL	B	4 hours	32
HE4 + ROMA (Earlier Detection of Ovarian Tumour)	HE4	B	1 day	101
Hepatitis (Acute) Screen	AHSC	B	4 hours	79, 92
Hepatitis A (IgM)	HAVM	B	4 hours	92
Hepatitis A Immunity (IgG/IgM)	HAIM	B	4 hours	91-92
Hepatitis A Profile	HEPA	B	4 hours	67, 92
Hepatitis A RNA by PCR	HAVR	A or B	3 weeks	92
Hepatitis A, B & C Profile	ABC	B	4 hours	92
Hepatitis B 'e' Antigen and Antibody	HEPE	B	4 hours	92
Hepatitis B (PCR) Genotype	BGEN	A	7 days	92
Hepatitis B Core Antibody – IgM	HBCM	B	4 hours	92
Hepatitis B Core Antibody – Total	HBC	B	4 hours	92
Hepatitis B DNA (Viral load)	DNAB	A	5 days	92
Hepatitis B Immunity	HBIM	B	4 hours	91-92
Hepatitis B Profile	HEPB	B	4 hours	92
Hepatitis B Resistant Mutation	HBRM	A or B	7 days	92
Hepatitis B Surface Antigen	AUAG	B	4 hours	67, 92
Hepatitis C Abs Confirmation (RIBA)	RIBA	B	5 days	92
Hepatitis C Antibodies	HEPC	B	4 hours	67, 92
Hepatitis C Antigen (Early detection)	HCAG	B	4 hours	92
Hepatitis C Genotype	CGEN	A	5 days	92
Hepatitis C Quantification (Viral Load)	QPCR	A or B	5 days	92
Hepatitis Delta Antibody	HEPD	B	5 days	92
Hepatitis Delta Antigen	HDAG	B	5 days	92
Hepatitis Delta RNA	DRNA	A (Frozen plasma)	5 days	92
Hepatitis E (PCR)	EHEP	A	2 weeks	92
Hepatitis E IgG/IgM	HBE	B	5 days	92
Hepatitis G (PCR)	HEPG	A (Frozen plasma)	2 weeks	92
Herpes Simplex I/II Antibody Profile (IgG)	HERP	B	2 days	98
Herpes Simplex I/II by PCR	HERD	**FCRU/PCR/TPV**	5 days	67, 98, 164
Herpes Simplex I/II by PCR (Swab)	HERS	**PCR**	5 days	67, 98
Herpes Simplex I/II IgM	HERM	B	2 days	98
HFE gene (Haemochromatosis) – common mutations C282Y + H63D	HMD	A [9]	3 days	40
Hirsutism Profile	HIRP	B	4 hours	51, 57
Histamine (Blood)	HITT	A (Frozen plasma)	5 days	81

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Histamine (Urine)	HITU	RU	5 days	81
Histamine Releasing Urticaria Test	CURT	B	3 weeks	81, 138
Histone Antibodies	HISA	B	5 days	81
Histopathology				170-174
Histoplasmosis	HISP	B	10 days	81
HIV 1 & 2/p24Ag	HDUO	B	4 hours	67, 96
HIV-1 Genotypic Resistance (Integrase)	INTE	AA (2 x 6ml whole blood)	21 days	96
HIV-1 Genotypic Resistance (RT & Protease)	HIVD	AA (2 x 6ml whole blood)	21 days	96
HIV-1 Proviral DNA	HIVP	A Whole blood	7 days	96
HIV-1 RNA Viral Load by PCR	HIV1	AA (2 x 6ml whole blood)	3 days	96
HIV-1 Tropism	TRPM	AA (2 x 6ml whole blood)	28 days	96
HIV-2 RNA by PCR	HIV2	A	21 days	96
HIV/HBV/HCV (Early detection by PCR/NAAT) with Syphilis	STXX	BA 10mls or 2 x 4mls	3 days	67, 77
HIV/HBV/HCV Screen by PCR/ NAAT (10 days post exposure)	STDX	A 10mls or 2 x 4mls (Vacutainer only)	3 days	67, 77, 96-98
HIV Confirmation of Positive Screens (Using 3 methodologies)	HIVC	B	1 day	96
HIV Rapid RNA HIV-1 QUALITATIVE	LHIV	A (Vacutainer only)	4 hours	67, 96-97
HIV Rapid RNA HIV-1 QUANTITATIVE	RHIV	A (Vacutainer only)	4 hours	67, 96-97
HIV Therapeutic Drug Monitoring	TDM	J	21 days	96
HLA B*57:01	HL57	A[9]	10 days	96
HLA B27	HLAB	A[9]	3 days	81
HLA DQ Alpha Antigens	10RF	AA	2 weeks	54
HLA DQ Beta Antigens	11RF	AA	2 weeks	54
HLA DR Antigens	9RF	AA	2 weeks	54
HLA Tissue Typing A	HLA	A[9]	10 days	118
HLA Tissue Typing A+B	HLBA	A[9]	10 days	118
HLA Tissue Typing A+B+C (Class I)	HABC	A[9]	10 days	118
HLA Tissue Typing A/B/DRB1/3/4/5	HLAF	A[9]	10 days	118
HLA Tissue Typing A/B/DRB1/3/4/5/DQB1	HLF	A[9]	10 days	118
HLA Tissue Typing A/B/C/ DRB1/3/4/5/DQB1 (Class I & II)	HLFC	A[9]	10 days	118
HLA Tissue Typing B	HLB	A[9]	10 days	118
HLA Tissue Typing B*27 only	HLAB	A[9]	3 days	118
HLA Tissue Typing B*51 (Behcet's Disease)	B51	A[9]	10 days	118
HLA Tissue Typing B*57:01 high resolution	HL57	A[9]	10 days	118
HLA Tissue Typing C	HLC	A[9]	10 days	118
HLA Tissue Typing Coeliac Disease – DQ2/DQ8	Q2Q8	A[9]	10 days	118
HLA Tissue Typing DRB1/3/4/5	DRB1	A[9]	10 days	118

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TEST	CODE	SAMPLE REQS	TAT	PAGE
HLA Tissue Typing DRB1/3/4/5/ DQB1 (Class II)	HLDQ	A [9]	10 days	118
HLA Tissue Typing Narcolepsy – DQB1*06:02	GENE	Requires patient informed consent A [9]	4 weeks	118
Homocysteine (Quantitative)	HOMO	B [17]	1 day	32
Homocysteine (Urine)	HCYS	**CU**	2 weeks	32
Homovanillic Acid (HVA)	HVA	**PU**	5 days	32
House Dust Mite Components	ZZ12	B	2 days	145
HPV (DNA and reflexed mRNA)	HPVT	**TPV**	3 days	67, 166
HPV (HR mRNA types 16, 18 + others)	HPVH	**TPV**	3 days	67, 166
HPV (Individual low & high risk DNA subtypes)	HP20	**TPV/PCR**	3 days	67, 166
HPV Individually Typed High Risk DNA Subtypes	HPVZ	**Self-collection kit**	10 days	167
HPV mRNA (All High Risk Subtypes)	HPVY	**Self-collection kit**	3 days	167
HRT Profile 1	HRT	B	4 hours	51, 57
HRT Profile 2	HRT2	B G	4 hours	51, 57
HTLV 1 & 2 Abs. (Human T Lymphotropic Virus Type I-II)	HTLV	B	8 hours	96
HTLV by PCR	HTLP	A Whole blood	21 days	96
Hughes Syndrome	LUPA	B C [4,18]	2 days	39
Human Anti-Mouse Antibodies	HAMA	B (Frozen)	6 weeks	81
Human Herpes Virus – 6 by PCR	HHV6	A	5 days	98
Human Herpes Virus – 8 (IgG)	HHV8	B	10 days	98
Human Herpes Virus – 8 by PCR	HV8D	A	5 days	98
Human Parvovirus B19 – DNA	PCRP	A	2 weeks	98
HVS	HVS	**STM/CS** ‡‡‡‡	2-4 days	42
Hyaluronic Acid	AHT	B	1 week	32
Hydroxybutyrate Dehydrogenase	HBD	B (Frozen)	1 week	32
Hydroxyprolene	UHYD	**CU**	2 weeks	32
Identity Profile (DNA) – 15 STR markers	DNAF	A [9,11]	10 days	118
IgE (Total)	IGE	B	1 day	81
IGF-1 (Somatomedin)	SOMA	B (Frozen) [4]	1 day	52
IGF-BP3	IGF3	B (Frozen) [4]	5 days	52
IgG Subclasses	IGSC	B	4 days	33
Imipramine	IMIP	A [4]	4 days	134
Immune Function Evaluation (Total)	TIE	A + B [5,10]	7 days	38
Immune-Complexes	IMCP	B	5 days	81
Immunoglobulin A	IGA	B	4 hours	33
Immunoglobulin D	IGD	B	5 days	33
Immunoglobulin E – Total	IGE	B	1 day	33
Immunoglobulin G	IGG	B	4 hours	33
Immunoglobulin M	IGM	B	4 hours	33
Immunoglobulins (IgG, IgM, IgA)	IMM	B	4 hours	33, 81

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Impotence Profile	IMPO	A B B G	3 days	52
Individual Semen Parameters* **	SPOD	**Semen** [1]	1 day	63
Inhibin A	INIA	B	1 month	52
Inhibin B	INIB	B (Day 3 of cycle, frozen)	5 days	52
Inner Ear Antigen (Ottoblot)	IEA	B	3 weeks	81
INR	PTIM	C [18]	4 hours	38
Insect/Worm/Ova/Cysts	FLEA	Send Specimen [9,14]	5 days	88
Insulin	INSU	B	4 hours	52
Insulin Antibodies	INAB	B	5 days	81
Insulin Resistance (Fasting)	FIRI	B G	4 hours	52
Insulin-Like Growth Factor 2	IGF2	B [6]	1 month	33
Interferon – Alpha	IFA	B (Frozen) [9]	3 weeks	81
Interferon – Gamma	IFG	A (Frozen)	3 weeks	81
Interleukin 1 Beta	ILB	B (Frozen) [4,7]	1-2 weeks	81
Interleukin 2	IL2	B (Frozen) [4,7]	1-2 weeks	81
Interleukin 4	IL4A	B (Frozen) [4,7]	1-2 weeks	81
Interleukin 6	IL6	B (Frozen) [4,7]	1-2 weeks	81
Interleukin 8	IL8	B (Frozen) [4,7]	1-2 weeks	81
Interleukin 10	IL10	B (Frozen) [4,7]	1-2 weeks	81
Interleukin 28b Genotype	IL28	A	2 weeks	81
Intrinsic Factor Antibodies	IFAB	B	2 days	81
Iodide – Urine	UIOD	**RU**	1 week	33
Iodine – Serum	IODI	B	1 week	33
Ionised Calcium	ICPA	B	5 days	33
Iron (TIBC included)	FE	B	4 hours	33
Iron Overload Profile	IOP	A B [9]	3 days	33, 36, 119, 132
Iron Status Profile	ISP	B	4 hours	33, 36
ISAC Panel	ISAC	B	3 days	138-139
Islet Cell Antibodies	ICAB	B	2 days	81
IUCD for Culture	IUCD	Send Device	11-12 days	42
JC Polyoma Virus by PCR	JCPV	A / B / **CSF**	5 days	98
Ketamine Screen	KETA	**RU**	7-10 days	157
KIR (Killer-like Immunoglobulin-like Receptors) Genotyping	17RF	A A A	2-3 weeks	54
Kiwi Components	ZZ32	B	2 days	145
Lactate (Plasma)	LACT	G [16]	1 day	33
Lactate Dehydrogenase (LDH)	LDH	B	4 hours	33
Lactate Pyurvate Ratio	LPR	**J** [1]	4-6 weeks	33
Lactose Intolerance Gene	LACG	A	2 weeks	119
Lactose Tolerance Test	LTT	By appointment only	1 day	133
Lamotrigine	LAMO	B [4]	5 days	134
Langer-Giedion Syndrome – BOBs (5 days) + karyotype (15 days)	PBOB, KARY	**CVS** / **AF** / A H [9]	5-15 days	119

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Langer-Giedion Syndrome – BOBs only	PBOB	**CVS** / **AF** / A [9]	5 days	119
Latex Components	ZZ13	B	2 days	145
LDH Isoenzymes	ISOL	B	5 days	33
LDL7 Subfractions	LDL7	B	10 days	33
Lead (Blood)	LEAD	A	5 days	33, 159
Lead (Urine)	URPB	**RU**	5 days	33, 160
Lead Profile (Hb, ZPP, Lead)	LEAZ	A [13]	3-5 days	159
Legionella Antibodies	LEGO	B	2 days	81
Legionella Urine Antigen	LEGA	**RU**	1 day	42, 81
Leishmania Antibodies	LEIS	B	5 days	88
Leptin	LEPT	B [19]	5 days	33
Leptospirosis (Weil's Disease) Abs (IgM)	LEP	B	5 days	81
Leucine Amino Peptidase	LAP	B	5 days	33
Leucocyte Antibody Detection Panel FEMALE	8RF	B	1 week	54
Leucocyte Antibody Detection Panel MALE	7RF	H H H [3,4,6]	1 week	54
Leukaemia Immunophenotyping	LYPT	A [4,5]	5 days	40
Leukotriene E4	LTE4	**CU** (Frozen)	3 weeks	81
Levetiracetam (Keppra)	LEVE	B [4]	3 days	134
Lipase	LIPA	B	4 hours	33
Lipid Profile	LIPP	B	4 hours	33, 36
Lipid Transfer Proteins	ZZ23	B	2 days	145
Lipocalins	ZZ28	B	2 days	145
Lipoprotein (a)	LPOA	B	4 hours	33
Lipoprotein Electrophoresis	LEL	B	5 days	33
Listeria IgG/IgM Antibody	LIST	B	1 week	81
Lithium (take 12 hours after dose)	LITH	B	4 hours	33, 134
Liver Fibrosis (Enhanced Liver Fibrosis ELF)	ELF	B	5-7 days	33
Liver Fibrosis Fibrotest	FIBT	B	2 weeks	33
Liver Function Tests	LFT	B	4 hours	33, 36
Liver Immunoblot	LIVI	B	3 days	81
Liver Kidney Microsomal Antibodies	LKM	B	2 days	81
Lorazepam	LORA	A [4]	10 days	134
Lp-PLA2 (PLAC) Test	PLA2	B	2 days	33
LSD	LSD	**RU**	5 days	157
Lupus Anticoagulant and Anticardiolipin Abs	LUPA	B C [4,18]	2 days	39, 81
Lupus Anticoagulant only	LUPC	C [18]	2 days	39
Lutein	LUTE	B [13]	2 weeks	148
Luteinising Hormone (LH)	LH	B	4 hours	52
Lycopene	LYCO	B	2 weeks	148
Lyme Disease (Borrelia Abs) IgG, IgM	BORR	B [9,14]	2 days	81
Lyme Disease (Borrelia Abs) IgM	BORM	B	2 days	81

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Lymphocyte Subsets (CD3/CD4/CD8)	LYSS	A [10]	1 day	38
Lymphogranuloma Venerium (LGV)	LGVP	**PCR*** [42]	1-2 weeks	67
Lysosomal Enzyme Screen	LE	H H [6]	2 months	33
Lysozyme	LYSO	B	5 days	33
Macrolide Resistance Test (Mgen)	MGR	**FCRU/PCR**	1-2 weeks	67
Macroprolactin	PRLD	B	4 days	52
Magnesium (Serum)	MG	B	4 hours	33, 159
Magnesium (Urine)	URMG	**PU**	1 day	33, 160
Magnesium (Whole blood)	RCMG	A or H	4 days	148
Malarial Antibodies (Pl. falciparum)	MALA	B [9,14]	5 days	88
Malarial Antibodies (species specific)	MALS	B [9,14]	10 days	88
Malarial Parasites	MALP	A [4,9,14]	STAT	38
Male Genetic Reproductive Profile	GRP	A H [9]	10-15 days	120, 132
Male Hormone Profile	MIPR	B	4 hours	52, 56
Manganese (Serum)	MANG	B	5 days	33, 159
Mannose Binding Lectin	MBL	B	3 weeks	33
MBOCA in Urine	MBOC	**RU**	10 days	160
Mean Cell Volume (MCV)	MCV	A	4 hours	38
Measles Antibodies (IgG) Immunity	MEAS	B	1 day	91, 98
Measles Antibodies (IgM)	MEAM	B [9]	2 days	91, 98
Measles PCR	MEAP	**Buccal swab**	48 hours	98
Measles, Mumps, Rubella (MMR)	MMR	B	1 day	91
Melanin	MELA	**RU** [13]	5 days	52
Melatonin (Serum)	MEL	B (Frozen)	5 days	52
Melatonin (Urine)	UMEL	**CU** [13]	2 weeks	52
Meningococcal Abs	MENI	B	2-4 weeks	81
Menopause Profile	MENO	B	4 hours	52, 57
Mercury (Blood)	MERC	A or H	5 days	33, 159
Mercury (Urine)	URHG	**RU** [1]	5 days	33, 160
MERS Coronavirus Test	MERS	**J**	1 day	98
Metabolic Syndrome Profile	METS	A B B G	9 days	52, 57
Metanephrines (Plasma)	PMET	A (Frozen plasma)	7 days	52
Metanephrines (Urine)	UMEX	**PU** [1]	5 days	52
Methaemoglobin	METH	A	3 days	33
Methaqualone	METQ	**RU**	5 days	33
Methotrexate	METX	B	2 days	134
Methylmalonic Acid – Serum	MMAS	B	5 days	33
Methylmalonic Acid – Urine	MMA	**CU**	2 weeks	34
Metronidazole Level	METR	B [4]	7 days	133
Microalbumin (Urine)	UMA	**RU**	4 hours	34
Microdeletion (common) Syndromes – BOBs only	PBOB	**CVS / AF /** A [9]	5 days	120
Microfilaria Blood Film	MICF	A	STAT	38

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Miller-Dieker Syndrome – BOBs (5 days) + karyotype (15 days)	PBOB, KARY	**CVS / AF /** A H [9]	5-15 days	121
Miller-Dieker Syndrome – BOBs only	PBOB	**CVS / AF /** A [9]	5 days	121
Mineral Screen	MINE	B K	5 days	148
Mineral Screen (Whole blood)	RMIN	H H	5 days	147-148
Mineral Screen and Industrial Heavy Metal Screen (Trace Metals)	TRAC	A B H K	7-10 days	148
Miscarriage/Thrombotic Risk Profile	PROP	A A B C C C [18]	5 days	39, 125, 132
Mitochondrial Antibodies	AMIT	B	3 days	81
Mitochondrial Antibodies M2	MAM2	B	2 days	81
Molybdenum (Serum)	MOLY	B	5 days	160
MRSA (Rapid PCR) one swab per site	MRSA	**Blue Micro Swab**	4 hours	43
MRSA Culture one swab per site	MRSW	**Blue Micro Swab**	2 days	43
Mucopolysaccharides	MPS	**RU** (Frozen)	3 weeks	34
Mumps Antibodies (IgG)	MUMP	B	1 day	91
Mumps Antibodies (IgM)	MUMM	B	1 day	91, 98
Myasthenia Gravis Evaluation	MGE	B	5 days	81
Mycology/Skin Scrapings by PCR	DERM	Submit Sample	3-7 days	43
Mycophenolic Acid (Cellcept)	MYCP	A	5 days	134
Mycoplasma genitalium by PCR	MGEN	**FCRU/PCR/TPV**	2 days	67, 164
Mycoplasma genitalium/ Ureaplasma by PCR	MUPC	**FCRU/PCR/TPV**	2 days	67
Mycoplasma species – DNA	MPCR	A	5 days	99
Myelin Associated Glycoprotein Antibodies	MAG	B	5 days	81
Myelin Basic Protein Antibodies	MBPA	B	2 weeks	81
Myeloma Screen	MYEL	A B G **RU**	5 days	34, 36
Myeloperoxidase Antibodies	MPO	B	2 days	81
Myocardial Antibodies	MYO	B	1 week	81
Myoglobin (Serum)	SMYO	B	4 hours	34
Myoglobin (Urine)	UMYO	**RU**	5-10 days	34
Myositis Panel	MYOS	B	3 days	81
Mysoline (Primidone)	PRIM	B [4]	3 days	134
N. gonorrhoea	TGON	**TPV**	2 days	164
Nail Clippings	DERM	**Nail clippings**	3-7 days	43
Natural Killer Profile 2	NKP2	A	2 days	38, 41
Needle Stick Injury Profile	NSI	B B	4 hours	91, 99
Neurological Viral Screen	NVIR	B B	2 days	99-100
Neuronal Antibody (Hu, Ri, Yo, Cv2, Ma2)	NEUR	B	10 days	81
Neurone Specific Enolase	NSE	B	5 days	101
Newborn Screening Panel	GUTH	**J** [1]	2 weeks	34
Nickel (Serum)	NICK	B	5 days	34, 159
Nickel (Urine)	NICU	**RU**	10 days	34, 160
NK (CD69) and NK Cytotoxicity	69C	H H H*	Send Mon-Thurs only	55

Alphabetical test index

TEST	CODE	SAMPLE REQS	TAT	PAGE
NK (CD69) Cell Assay	CD69	H*	Send Mon-Thurs only	55
NK Assay Follow-Up Panel	5RF	HHH	1 week	54
NK Assay Panel + Intralipids	16RF	HHH	1 week	54
NK Assay/Cytotoxicity Panel	4RF	HHH	1 week	54
NK Cytotoxicity Assay	HSNK	HHH*	Send Mon-Thurs only	55
NK Cytotoxicity with suppression with steroid, IVIg and intralipin, and NK (CD69) cell assay	69CI	HHH*	Send Mon-Thurs only	55
NK Cytotoxicity with suppression, steroid, IVIg & Intralipin	NKCY	HHH*	Send Mon-Thurs only	55
NMDA Receptor Antibodies	NMDA	B	3 weeks	81
NMP22 (Bladder tumour)	NMP	**J** [1]	4 days	34, 101
Non-Invasive Prenatal Testing – common aneuploidy screening from maternal blood	NIPT	**J / Special tubes** [1]	3-5 days	121
Nucleic Acid Antigen Antibodies	DNA	B	2 days	82
Oestradiol (E2)	OEST	B	4 hours	52
Oestriol (Estriol)	E3	BB	4 days	52
Oestrone	E1	BB	4 days	52
Olanzapine	OLAN	A [4]	5 days	134
Oligoclonal Bands	CSFO	**CSF** + B	5 days	82
Oligosaccharides	UOLI	**RU**	6 weeks	34
Olive Components	ZZ14	B	2 days	145
Omega 3/Omega 6	OMG3	A [4]	4 days	148-149
Opiate Screen (Urine)	UOPI	**RU**	2 days	157
Orosomucoid (A1AG – Alpha 1 Glycoprotein)	OROS	B (Frozen)	5 days	34
Osmolality (Serum)	OSMO	B	1 day	34
Osmolality (Urine)	ROSM	**RU**	1 day	34
Osteocalcin	OST	B (Frozen) [4]	4 days	52, 101
Osteoporosis Screen	OPS	BB	4 days	34, 37
Ovarian Autoantibodies	OVAB	B	2 days	82
Oxalate (Plasma)	POXA	A (Frozen)	7 days	34
Oxalate (Urine)	UOXA	**PU**	5 days	34
Oxidative Stress in Semen (ROS + MIOXSYS)	SROS	**Semen** [1]	1 day	63
P2Y12 Receptor Platelet Function Analysis (Clopidogrel Resistance)	P2Y	C (Whole blood)**	1 day	39
PAI1 4G/5G Polymorphism	PAIP	A	10 days	38
Pancreatic Peptide	PP	**J**	4 weeks	34
PAPT and HPVH	PAPT + HPVH	**TPV**	3 days	166
Paracetamol	PARA	B	4 hours	134
Paragomius Serology	PRGM	B	2 weeks	82
Parathyroid Antibodies	PTHA	B	1 week	82
Parathyroid Hormone (Whole)	PTHI	B [4]	1 day	52

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Parathyroid Related Peptide	PTRP	2ml (A) Plasma frozen (Freeze immediately)[1]	2 weeks	34
Parvalbumins	ZZ29	(B)	2 days	145
Parvovirus Antibodies (IgM)	PARV	(B)	2 days	99
Parvovirus IgG Antibodies	PARG	(B)	2 days	99
Parvovirus IgG/IgM Abs	PARP	(B)	2 days	99
Paternity Testing (postnatal and prenatal) – sample required from each person being tested (3 people)	PATT	(A) / **AF** / **CVS**[9,11,12] **Contact lab**	5 days	122
Paul Bunnell (Monospot)	PAUL	(A) or (B)	8 hours	38
Peach Components	ZZ15	(B)	2 days	145
Peanut Components	ZZ16	(B)	2 days	145
Pemphigus/Pemphigoid Autoantibodies	SKAB	(B)	2 days	82
Pertussis (Whooping Cough) Antibodies	PERS	(B)	5 days	82, 91
PEth (Phosphatidylethanol)	PETH	(A)[38]	5-7 days	34, 157
Pethidine – Urine	UPET	**RU**	4 weeks	160
Phelan-McDermid Syndrome – karyotype + FISH	KARY, FISH	**CVS** / **AF** / (H)[9]	12-17 days	122
Phencyclidine (PCP)	DUST	**RU**	5 days	34
Phenobarbitone	PHB	(B)	4 hours	134
Phenytoin (Epanutin)	PHEN	(B)	4 hours	134
Phosphate	PHOS	(B)	4 hours	34
Phosphate (24 hour Urine)	UPH	**PU**	4 hours	34
Pituitary Antibodies	PITU	(B)[4]	1 month	82
Pituitary Function Profile	PITF	(B)(B)	1 day	52, 57
PLAC Test (Lp-PLA2)	PLA2	(B)	2 days	34
Plasminogen	PLAS	(C) (Frozen plasma)[4]	5 days	34
Plasminogen Activator Inhibitor – 1	PAI1	(C) (Frozen plasma)	2 weeks	34
Platelet Aggregation Studies	PLAG	**J**[5,6]	3 days	39
Pleural Fluid for Culture	FLUP	**SC**	7 days	43
Pneumococcal Antibodies – Serotype Specific	PASS	(B)	5 weeks	82
Pneumococcal Antibody Screen	PNEU	(B)	5 days	82, 91
Pneumococcal Antigen	PNAG	**RU**	1 day	43
Pneumocystis Jiroveci (PCP) Examination	PCYS	**BAL**‡‡	2-3 days	43
Pneumonia (Atypical) Screen	APS	(B)	2 days	99-100
Polcalcins	ZZ25	(B)	2 days	145
Polio Virus 1, 2, 3 Antibodies	POLO	(B)[9]	15 days	91
Polycystic Ovary Syndrome Profile	PCOP	(A)(B)(B)(B)(G)[7]	5 days	52, 57
Polycystic Ovary Syndrome SHORT	PCOS	(B)(G)	4 hours	52, 57
Porphyrin (Blood)	PORP	(A)[3]	15 days	34
Porphyrins (Faeces)	FPOR	**RF**[3]	3 weeks	34
Porphyrins Full Screen (Total: Urine, Stool, Blood)	PORS	(A) **RU**, **RF**[3]	3 weeks	34
Porphyrins Screen (Urine)	RPOR	**RU**[3]	3 weeks	34

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	TEST	CODE	SAMPLE REQS	TAT	PAGE
	Postnatal array CGH	CGH	A H [9]	10 days	123
	Post-Travel Screen 1 (Prior to 6 weeks)	PTS	A A B G [14]	10 days	88-89
	Post-Travel Screen 2 (Prior to 6 weeks)	PTS2	A A B B G [14]	10 days	88-89
	Potassium	K	B	4 hours	34
	PR-10 Proteins	ZZ22	B	2 days	145
	Prader-Willi Syndrome (Primary Screen) – methylation PCR	PWAM	A [9]	10 days	123
	Prealbumin	PALB	B	3 days	138
	Pregnancy (Serum) [Quantitative]	QHCG	B	4 hours	34, 52
	Pregnancy Test (Urine)	PREG	**RU**	4 hours	34
	Pregnanetriol (Urine)	UPTR	**CU** (Frozen)	5 days	52
	Pregnenolone	PREN	B	15 days	52
	Prenatal array CGH	CGH	**Amniotic fluid** or **CVS** [9]	10 days	123
	Pre-Travel Screen (DVT)	DVT1	A A B [9]	5 days	38, 41, 88-89, 123, 132
	Primidone (Mysoline)	PRIM	B [4]	3 days	134
	Procalcitonin	PCAL	B (Frozen) [4,7]	1 day	34
	Procollagen 1 Peptide N-Terminal (NTX)	P1NP	B	5 days	34
	Procollagen III Peptide	PRCO	B	5 days	34
	Products of Conception – rapid BOBs aneuploidy diagnosis for all chromosomes (5 days) + culture (25 days)	PBK	**Placental Sample** [1,9]	5-25 days	123
	Products of Conception (BOBs + Culture)	PBK	**Placental Sample** [1,9]	5-25 days	123
	Products of Conception BOBs only – rapid aneuploidy diagnosis for all chromosomes	KBOB	**Placental Sample** or **Solid Tissue** [1,9]	3-6 days	123
	Profilins	ZZ24	B	2 days	145
	Progesterone	PROG	B	4 hours	52
	Proinsulin	PROI	A (Frozen plasma) [4]	5 days	52
	Prolactin	PROL	B	4 hours	52
	Prolactin (Macro)	PRLD	B	4 days	52
	Propanalol	PRO	B [4]	7 days	135
	Propoxyphene	DPRO	**RU**	5 days	34
	Prostate Profile (Total & Free PSA)	PR2	B	4 hours	101
	Prostate Specific Antigen (Total)*	PSPA	B	4 hours	101
	Prostatic Acid Phosphatase	PACP	B (Frozen)	3 days	34
NEW	**Prostatitis Screening Panel** – see page 44 for sample details	PROS	**VB1U** + **VB2U** + **EPS** or **EPSW** + **VB3U**	4-5 days	43-44
	Protein (Urine)	UPRT	**CU**	4 hours	34
	Protein 14.3.3 (Creutzfeldt–Jakob Disease)	CJD	**CSF** (Frozen)	5 weeks	34
	Protein C	PRC	C (Frozen) [4,9,18]	3 days	39
	Protein Electrophoresis incl. immunoglobin	PRTE	B	2-4 days	34
	Protein S Activity	PS1	C (Frozen) [4,9,18]	5 days	39

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Protein S Free Ag	FPRS	C (Frozen) [4,9,18]	3 days	39
Protein Total (Blood)	PROT	B	4 hours	34
Protein/Creatinine Ratio (Urine)	UCPR	RU	4 hours	35
Proteinase 3 Ab	PR3	B	2 days	82
Prothrombin Time	PTIM	C [18]	4 hours	38
Prothrombin Time + Dose	PT+D	C [18]	4 hours	38
Purkinje Cell Antibody (Hu and Yo)	PURK	B	10 days	82
Pyruvate Kinase (M2-PK)	M2PK	A	5 days	101
Pyruvate Kinase (M2-PK)	M2ST	RF [4]	5 days	101
Q Fever (C Burnetti) Antibodies	QFEV	B [9]	10 days	82
QF-PCR rapid common aneuploidy screen	APC	AF / A [9]	1-2 days	124
Rabies Antibody	RABI	B	10 days	91
Rapid Strep (incl. m/c/s)	RAPS	STM**	1-3 days**	43
Rapid Xpert HIV-1 RNA Qualitative – Early Detection from 10 days	LHIV	A (Vacutainer only)	4 hours	68, 78
Rapid Xpert HIV-1 RNS Viral Load – Rapid Testing for HIV-Positive Patient Prognosis and Response To Antiretroviral Therapy	RHIV	A (Vacutainer only)	4 hours	68, 78
Recurrent Fever Screening	GENE	Requires patient informed consent A A	10 weeks	123
Recurrent Miscarriage Profile (female)	RMP	A A B C C C H [9,18]	10-15 days	124, 132
Renal Calculi Screen (Metabolic)	RSPR	J [6]	5 days	35
Renal Stone Analysis	RSTA	STONE	10 days	35
Renin	RENI	A (Frozen plasma) [36]	5 days	52
Reproductive Immunophenotype Panel	3RF	H H H	1 week	54
Reticulocyte Count	RETC	A	4 hours	38
Retinol Binding Protein	RBP	B	3 days	35
Retrograde Ejaculation	RTRO	Contact lab	2 days	63
Reverse T3	RT3	B [7,37]	10 days	52
Rheumatoid Factor (Latex Test)	RF	B	1 day	82
Rheumatology Profile 1 (Screen)	RH	A B	2 days	82, 86
Rheumatology Profile 2 (Connective tissue)	RH2	A A B B	3 days	82, 86
Rheumatology Profile 3 (Rheumatoid/Basic)	RH3	A B	2 days	82, 86
Rheumatology Profile 4 (Systemic Lupus)	RH4	A B B	2 days	82, 86
Rheumatology Profile 5 (Mono Arthritis)	RH5	A A B B	3 days	82, 86
Rheumatology Profile 6 (Rheumatoid Plus)	RH6	B	2 days	82, 86
Rheumatology Profile 7 (Sjogren's Syndrome)	RH7	B	10 days	82, 86
Rhinitis Provoking Profile	ALRN	B	2 days	138
Rickettsial Species Antibody Profile	RICK	B	7 days	82, 88
Risperidone	RISP	A [4]	7 days	135

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	TEST	CODE	SAMPLE REQS	TAT	PAGE
NEW	**RNA Polymerase Antibodies**	RNAP	B	3 days	82
	Rotavirus in Stool by PCR	ROTA	**RF**	1 day	99
	RPR (VDRL)	RPR	B	2 days	68, 82
	Rubella Antibody (IgG)	RUBE	B	4 hours	91, 99
	Rubella Antibody (IgM)	RUBM	B	4 hours	91, 99
	Rubella Avidity	RUAV	B	1 week	99
	Rubella PCR	RUBP	A / **Amniotic Fluid**	5 days	91
	S100 Malignant Melanoma	S100	B	4 days	101
	Saccharomyces Cerevisiae Antibodies	ASCA	B	2 weeks	82
	Salicylates	SALI	B	4 hours	35
	Salivary Duct Antibodies	SAB	B	12 days	82
	Schistosoma (Urine)	USCH	Mid-morning terminal urine following exercise[14]	1-2 days	43
	Schistosome (Bilharzia) Antibodies	BILH	B[14]	10 days	88
	Scleroderma Immunoblot	SCLI	B	3 days	82
	Screening Profile 1 – Biochemistry	PP1	B G	4 hours	24
	Screening Profile 2 – Haematology/ Biochemistry	PP2	A B G	4 hours	24
	Screening Profile 3 – Haematology	PP3	A	4 hours	24
	Screening Profile 4 – Haematology/ Biochemistry (Short)	PP4	A B G	4 hours	24
	Screening Profile 5 – Haematology/ Biochemistry (Postal)	PP5	A B G	4 hours	24
	Screening Profile 6 – Well Person	PP6	A B G	4 hours	24
	Screening Profile 7 – Well Man	PP7	A B G	4 hours	25
	Screening Profile 8 – Well Person	PP8	A B G	2 days	25
	Screening Profile 9F – Senior Female	PP9F	A B B G **RU QFIT**[4]	2 days	25
	Screening Profile 9M – Senior Male	PP9M	A B B G **RU QFIT**[4]	2 days	25
	Screening Profile 10 – Cardiovascular Risk 1	PP10	B B	3 days	25
	Screening Profile 11 – Cardiovascular Risk 2	PP11	B B B C[34]	3 days	25
	Screening Profile 12 – Sexual Health Screen	PP12	**FCRU / PCR / TPV**	2 days	25
	Seed Storage Proteins	ZZ26	B	2 days	145
	Selenium (Serum)	SELE	B	4 days	35, 148
	Selenium (Whole Blood)	SELR	A or H	4 days	35, 148
	Sellotape Test	SELL	Send Sample***	1 day	43
	Semen Analysis, Comprehensive*	SPER	**Semen**[1]	2 days*	63
	Semen Analysis, Post-Vasectomy**	PVAS	**Semen**[1]	2 days	63
	Semen Analysis, Vasectomy Reversal*	SPER	**Semen**[1]	2 days*	63
	Semen Culture	SPCU	**Semen**	2-4 days	43, 63
	Semen Fructose	SPCF	**Semen**	2 days	63
	Semen Leucocytes	PMNS	**Semen**	2 days	63
	Semen Zinc	SPCZ	**Semen**	up to 10 days	63

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Serotonin	SERT	H (Frozen whole blood)[1]	10 days	52
Serotonin (Urine)	USER	**PU** 50mls (Frozen)[1]	5 days	52
Serum Albumins	ZZ30	B	2 days	145
Serum Free Light Chains	SLC	B	1 week	35
Sex Hormone Binding Globulin	SHBG	B	4 hours	52
Shrimp Components	ZZ17	B	2 days	145
Sickle Solubility	SSOL	A	4 days	40
Silver (Blood)	SILV	B	5 days	35, 159
Silver (Urine)	USIL	**RU**	5 days	35, 160
Sinequan (Doxepin)	DOXE	A	10 days	135
Sirolimus	SIRO	A	3 days	135
Sjogren's Syndrome	RH7	B	10 days	82
Skin (Pemphigus/Pemphigoid) Autoantibodies	SKAB	B	2 days	82
Skin Antibodies by Immunofluorescence	STSK	B	1 month	82
Skin Scrapings/Mycology by PCR	DERM	Send Sample	3-7 days	43
Sleeping Sickness Serology (African Trypanosomiasis)	TRYP	B[9]	10 days	82
Smith-Magenis Syndrome – BOBs (5 days) + karyotype (15 days)	PBOB, KARY	**CVS** / **AF** / A H[9]	5-15 days	124
Smith-Magenis Syndrome – BoBs only	PBOB	**CVS** / **AF** / A[9]	5 days	124
Smooth Muscle Antibodies	ASMO	B	2 days	82
Sodium	NA	B	4 hours	35
Somatomedin (IGF-1)	SOMA	B (Frozen)[4]	1 day	52
Soybean Components	ZZ18	B	2 days	145
Specific Gravity (Urine)	USG	**RU**	24 hours	43
Sperm Aneuploidy	SPPL	**Semen**[1]	4 weeks	63
Sperm Antibodies (Serum)	ASAB	B	5 days	63, 82
Sperm Antibodies/MAR Test (Semen)†	ASPA	**Semen**	1 day	63
Sperm Comet®	CMET	**Semen**	1-2 weeks	63
Sperm Count (Post-Vasectomy)	PVAS	**Semen**[1]	2 days	63
Sperm DNA Fragmentation (SCSA)	SEXT	**Semen**[1]	1-2 weeks	63
Sperm Morphology (Kruger strict criteria)	MRPH	**Semen**[1]	2 days	63
Spinal Muscular Atrophy – SMN1 deletions/duplications	SMA	A[9]	10 days	124
Sports/Performance Profile	SPOR	A A A B B B B G K[4]	5 days	147-148
Sputum for Routine Culture	SPU1	**SC**	2-4 days	43
Sputum for TB Culture (AFB)	SPU2	**SC**	up to 8 weeks	43
Squamous Cell Carcinoma	SCC	B	4 days	101
STD1 M/F STD Quad (Urine and Serology)	STD1	B **FCRU**	2 days	68, 76
STD2 M/F STI Profile Plus (Urine and Serology)	STD2	B **FCRU** (If culture swabs are needed please request separately)	4 days	68, 76

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TEST	CODE	SAMPLE REQS	TAT	PAGE
STD3 Female STD Quad (PCR Swab and Serology)	STD3	(B) **PCR**	2 days	68, 76
STD4 Female STI Profile Plus (PCR Swab and Serology)	STD4	(B) **PCR** (If culture swabs are needed please request separately)	4 days	68, 76
STD5 Serology only	STD5	(B)	4 hours	68, 76
STD6 Serology only without HIV	STD6	(B)	4 hours	68, 76
STD8 Vaginitis/BV Profile using Culture & PCR Swab	STD8	**PCR/STM**	3 days	68, 77
STD9 Symptomatic lesion sample using PCR Swab from lesion & PCR Swab	STD9	2 x **PCR Swab**	7 days	68, 77
Steroid Cell Antibody	SCA	(B)	2 days	82
STI Profile: MSM1	MSM1	(B)**/FCRU/PCR Swab Throat/PCR Swab Rectal**	2 days	68, 78
STI Profile: MSM2	MSM2	(B)**/FCRU/PCR Swab Throat/PCR Swab Rectal**	3 days	68, 78
Stool for OCP and Culture	PENT	**RF**	2-3 days	43
Stool for OVA Cysts & Parasites by PCR	OCP	**RF**	1 day	43
Stool Reducing Substances	STRS	**RF**[7]	5 days	43
Streptomycin Levels	STRM	(F)	5 days	135
Striated/Skeletal Muscle Antibody	STRA	(B)	2 days	82
Strongyloides Antibodies	STGA	(B)	10 days	82
Sulpiride	SULP	(B)[4]	4 days	135
Superoxide Dismutase Inhibitor	SODI	(A)/(H)	5 days	35
Suppression with steroid, IVIg and intralipin, NK (CD69) cell assay, TH1/TH2 cytokines	NCIT	(H)(H)(H)*	Send Mon-Thurs only	55
Swab (Cervical)	CERS	**STM / CS**	2-4 days	43
Swab (Ear)	EARS	**STM**	2-4 days (Culture) 8-9 days (Fungal) – same swab	43
Swab (Eye)	EYES	**STM**	2-4 days	43
Swab (Nasal)	NASS	**STM**	2-4 days	44
Swab (Oral)	ORSW	**STM/CS**	2-4 days	44
Swab (Penile)	PENS	**STM/CS**	2-4 days	44
Swab (Rectal)	RECG	**STM/CS**	2-4 days	44
Swab (Skin)	SKIS	**STM**	2-4 days	44
Swab (Throat)	THRS	**STM**	2-4 days	44
Swab (Urethral)	URES	**STM/CS**	2-4 days	44
Swab (Vaginal)	VAGS	**STM/CS**	2-4 days	44
Swab (Vulval)	VULV	**STM/CS**	2-4 days	44
Swab (Wound)	WOUS	**STM**	2-4 days	44
Synacthen Stimulation Test	SYNA	By appointment only	1 day	133
Synovial Fluid (for microscopy and culture)	FLU2	**SC**†††	14 days	44

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	TEST	CODE	SAMPLE REQS	TAT	PAGE
	Syphilis by PCR (chancre)	SYPS	PCR	5 days	68
	Syphilis IgG/IgM	SERJ	B	4 hours	68, 82
	T Regulatory Cells	25RF	H	3 days	54
NEW	T-SPOT®.COVID	TCEL	H***	3 days	26, 82
	T3	T3	B	4 hours	52
	T3 (Reverse)	RT3	B 7,37	10 days	52
	Tacrolimus/Prograf (FK506)	FK5	A 4	1-2 days	135
	Taipan Snake Venom Time	TTVT	C 18	1 week	39
	TB (pleuralfluid)	TBCU	SC	up to 8 weeks	44
	TB Culture	SPU2	SC	up to 8 weeks	44
	TB Culture (Urine)	TBUR	3 x EMU	up to 8 weeks	44
	TB Quantiferon®-TB Gold*	TBQ4	Special tubes or H 1	3 days	82
	TB Slopes – Confirmation and Sensitivity	TBSL	TB slope (LJ medium-green) 6	up to 8 weeks	44
	TDL Tinies™ and Self-collection samples				150-155
	Tegretol (Carbamazepine)	CARB	B	4 hours	135
	Teicoplanin Assay	TEIC	B	5 days	133
	Temazepam	TEMA	B 4	4 days	135
	Testicular Autoantibodies	TAB	B	2 days	82
	Testicular Tumour Profile	TTP	B	4 hours	101
	Testosterone	TEST	B	4 hours	52
	Testosterone (Bioavailable)	BTES	B	5 days	52
	Testosterone (Free)	FTES	B	3 days	52
	Tetanus Antibody	TETA	B	5 days	82, 91
	TH1/TH2 Cytokine Profile	1TH2	HHH*	Send Mon-Thurs only	55
	TH1/TH2 Cytokine Ratio	6RF	HHH 5	1 week	54
	TH1/TH2 Intracellular Cytokine Ratios with IVIG	21RF	HHH 5	1 week	54
	TH1/TH2 Intracellular Cytokine Ratios with IVIG, Prednisolone	20RF	HHH 5	1 week	54
	TH1/TH2 Intracellular Cytokine Ratios with Prednisolone	22RF	HHH 5	1 week	54
	Thalassaemia Screen	HBEL	A	4 days	40
	Thallium (Blood)	THAL	A / H	1 week	160
	Thallium (Urine)	URTH	RU	1 week	160
	Theophylline	THEO	B	4 hours	135
	Thiopurine Methyl Transferase	TPMT	A 5	5 days	35
	Thrombin Time	THRO	C 18	4 hours	38
	Thrombotic Risk Profile	PROP	AABCCC 18	5 days	39, 41, 125, 132
	Thyroglobulin Abs	TGAB	B	1 day	53
	Thyroglobulin Assay	TGA	B	1 day	53
	Thyroid Abs (incl. Thyroglobulin + Thyroid Peroxidase Abs)	THAB	B	1 day	53, 82
	Thyroid Peroxidase Antibodies/Anti TPO	TPEX	B	1 day	53, 83

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TEST	CODE	SAMPLE REQS	TAT	PAGE
Thyroid Profile 1	TF	B	4 hours	53, 56
Thyroid Profile 2	TF2	B	2 days	53, 56
Thyroid Profile 3	TF3	B	4 hours	53, 56
Thyroxine (T4)	T4	B	4 hours	53
Thyroxine Binding Globulin	TBG	B (Frozen)	10 days	53
Timothy Grass Components	ZZ19	B	2 days	145
Tissue for culture	TISS	Tissue sample	up to 14 days	44
Tissue Polypeptide Antigen	TPA	B	1 week	35
Tissue Transglutaminase IgA (Coeliac)**	TAA	B	2 days	83
Tissue Transglutaminase IgG	TAAG	B	5 days	83
Tobramycin Assay (Provide Clinical Details)	TOBR	B	3 days	133
Toluene (Blood)	TOL	J	10 days	160
Toluene (Urine)	UTOL	RU	10 days	160
Topiramate (Topamax)	TOPI	B [4]	4 days	135
Torch Screen	TORC	B	2 days	99-100
Total Acid Phosphatase	APT	B	5 days	35
Total Bile Acid/Bile Salts	BILS	B	1 week	35
Total IgE	IGE	B	1 day	35, 138
Total Immune Function Evaluation	TIE	A + B [5,10]	7 days	83
Total Immunoglobulin E	IGE	B	1 day	83
Toxocara Antibodies (IgG)	TFAT	B [9]	5 days	83
Toxoplasma Antibodies (IgG+IgM)	TFAM	B [9]	4 hours	83, 88
Toxoplasma Antibody Full Evaluation (IgM, Dye Test, IgG Avidity)	TDYE	B [9]	10 days	83
Toxoplasma by PCR	TXAG	A	5 days	83
TPPA	TPPA	B	2 days	68, 83
Trace Metal (Blood) Profile	TRAC	A B H K	7-10 days	159
Transferrin	TRAN	B	1 day	35
Transferrin Electrophoresis	TREL	B	2 weeks	35
Trichinella Serology	TRIC	B	5 days	83
Trichloracetic Acid (Urine)	UTCA	RU	5 days	160
Trichomonas vaginalis by PCR	TVPC	FCRU/PCR/TPV	2 days	68, 164
Triglycerides	TRI	B	4 hours	35
Trimethylaminuria (Fish Odour Syndrome)	FOS	PU	6 weeks	35
Trimipramine	TRIM	A	5 days	135
Tropical Screen (from 6 weeks post-travel)	TROP	B B [9,14]	10 days	88-89
Tropomyosins	ZZ31	B	2 days	145
Troponin T (High sensitive)	TROT	B	4 hours	35
Trypanosome (Chagas) Antibodies	CHGA	B [9,14]	10 days	83
Tryptase	STRY	B	2 days	35, 138
TSH	TSH	B	4 hours	53

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Alphabetical test index

	TEST	CODE	SAMPLE REQS	TAT	PAGE
	TSH-Receptor Antibodies	TSI	B	4 days	53, 83
	Tularaemia Antibodies	TULA	B [14]	5 days	83
	Tumour Necrosis Factor – Alpha	TNF	B (Frozen) [4]	2 weeks	35
	Uni Parental Disomy (UPD) – parents and child – Specify chromosome	Specify type	A [9,12]	5 days	125
	Urate (Uric acid)	UA	B	4 hours	35
	Urea	UREA	B	4 hours	35
	Urea (Urine)	UURE	**CU**	4 hours	35
	Urea and Electrolytes	U/E	B	4 hours	35-36
	Urea Electrolytes (Urine)	UELE	**CU**	4 hours	35
	Ureaplasma urealyticum by PCR	UGEN	**FCRU/PCR/TPV**	2 days	68, 164
	Uric Acid (Serum)	UA	B	4 hours	35
	Uric Acid (Urine)	UURI	**CU**	4 hours	35
	Urinary Methyl Histamine	UHIT	**RU** (Frozen)	2 weeks	83
	Urine (Microscopy Only)	UMIC	**RU**	1 day	44
	Urine Cytology (Urine cytology containers available from TDL Supplies)	URCY	**Urine** (30mls) [21]	2 days	169
	Urine EtG (Ethyl glucuronide)	ETG	**RU**	1 week	157
NEW	**Urine for Extended Culture** – Request from outset, not as an add on	UCXD	**MSU**	up to 7 days	44
	Urine for Microscopy and Culture	UCEM	**MSU** ††††	1-2 days	44
	Urine Free Light Chains	UFLC	**RU**	1 week	35
	Urine Organic Acids	UORG	**RU** (Frozen)	3 weeks	35
	Urine Steroid Screen (Steroid Hormones)	USTE	**CU** or **RU** [9]	2 weeks	35
	Urine Sugar Chromatography	UCRO	**RU** (Frozen)	3 weeks	35
	Urobilinogen (Urine)	UURO	**RU**	1 day	35
	Urticaria Test (Histamine Releasing)	CURT	B	3 weeks	83
	Vaginitis/BV Profile using Culture & PCR Swab	STD8	**PCR/STM**	3 days	68
	Valium (Diazepam)	DIAZ	A	7 days	135
	Valproic Acid (Epilim)	VALP	B	4 hours	135
	Vancomycin Hydrochloride	VANC	B	4 hours	133
	Varicella Zoster – DNA	VZPC	A	5 days	99
	Varicella Zoster Antibodies (IgG)	VZOS	B	1 day	91, 99
	Varicella Zoster Antibodies (IgM)	VZOM	B	1 day	91, 99
	Vascular Endothelial Growth Factor	VEGF	B	14 days	83
	VDRL (RPR)	RPR	B	2 days	83
	Venom Components	ZZ33	B	2 days	145
	Very Long Chain Fatty Acids	VLCF	A or H (Frozen) [9]	4-6 weeks	35
	Vigabatrin (Sabril)	VIGA	A	10 days	135
	Viral Antibody Screen	VIRA	B B	2 days	99-100
	Viral Eye by PCR	VPE	**PCR**	3 days	99-100
	Viral Respiratory RNA screen by PCR	VPR	**PCR** or as specified on the form	2 days	99-100

Alphabetical test index

TEST	CODE	SAMPLE REQS	TAT	PAGE
Viral Skin/Mucosa by PCR	VPSK	**PCR**	2 days	99-100
Viscosity (Plasma)	VISC	A [4]	3 days	39
Vitamin A (Retinol)	VITA	B	5 days	148
Vitamin B (Functional)	FUNC	A A or H [13]	5 days	148
Vitamin B Profile	VBP	A A B	5 days	147-148
Vitamin B1 (Thiamine)	VIT1	A	5 days	148
Vitamin B2 (Riboflavin)	VIB2	A	5 days	148
Vitamin B3 (Nicotinamide)	VIB3	B	5 days	148
Vitamin B5 (Pantothenic Acid)	VB5S	B	5 days	148
Vitamin B6 (Pyridoxine)	VITB	A	5 days	148
Vitamin B8 (Biotin)	BIOS	B	5 days	148
Vitamin B9 (Folic acid) – Red cell	RBCF	A	2 days	148
Vitamin B9 (Folic acid) – Serum	FOLA	B	1 day	148
Vitamin B12 (Active)	B12	B	1 day	35, 148
Vitamin B12 (Active)/Red Cell Folate	B12F	A B	2 days	35, 148
Vitamin B12 (Total)	TB12	B	1 day	35
Vitamin C (Active)	VITC	B (Frozen) [7]	5 days	149
Vitamin D (1, 25 Dihydroxy)	D3	B	5-8 days	149
Vitamin D (25-OH)	VITD	B	4 hours	35, 149
Vitamin E (Alpha Tocopherol)	VITE	B	5 days	149
Vitamin K (Nutritional)	VKN	B [13]	5 days	149
Vitamin K (With PIVKA II)	VITK	B [13]	10 days	38
Vitamin Profile 1	VITS	A B B [7]	5 days	147, 149
Vitamin Profile 2	VIT2	A A A B B [7,13]	5 days	147, 149
VLDL Cholesterol	VLDL	B [13]	1 week	35
VMA	UVMA	**PU** [1]	5 days	35
Voltage Gated Calcium Channel Antibodies	CCAB	B	3 weeks	83
Voltage Gated Potassium Channel Antibodies	VPCA	B	3 weeks	83
Von Willebrand Profile	FVWF	C C C [4,12]	5 days	39, 41
Von Willebrands Multimers	VWM	C C C [18]	3 months	39
Wall Pellitory Components	ZZ20	B	2 days	145
Walnut Components	ZZ34	B	2 days	145
West Nile Virus Abs	WNV	B	2 weeks	99
Wheat Components	ZZ21	B	2 days	145
Whooping Cough (Pertussis) Antibodies	PERS	B	5 days	83
Whooping Cough (Pertussis) by PCR	PERP	**Prenasal (posterior nasopharynx) swab**	5 days	83
Wolf-Hirschhorn Syndrome – BOBs (5 days) + karyotype (15 days)	PBOB, KARY	**CVS** / **AF** / A H [9]	5-15 days	126
Wolf-Hirschhorn Syndrome – BOBs only	PBOB	**CVS** / **AF** / A [9]	5 days	126
Xanthine – Blood	XANB	A	2 weeks	160
Xylene – Urine	UXYL	**RU** [30]	2 weeks	160

Ensure all specimens and forms are labelled with given Forename, Surname, DOB, Date and Time of collection. Turnaround times are quoted as working days.

Alphabetical test index

TDL Referral Laboratories

For certain specialist tests TDL has developed a selected network of TDL Group and Reference Laboratories. These Group or specialist laboratories can be identified by a code assigned to reports. The quality of these laboratories is recognised by UKAS, or similar accrediting bodies for the laboratories outside the UK.

Addenbrooke's Hospital – BGU and Immunology

Affinity Biomarker Labs

Alder Hey Children's NHS Foundation Trust – Biochemistry Department

Analytical Services International Ltd, St George's University of London – Forensic Toxicology Service

Animal and Plant Health Agency – Veterinary labs

Antenatal Screening Service, Wolfson Institute of Preventive Medicine, Barts and The London School of Medicine and Dentistry

Bio Predictive

Biodesix, Inc.

Biolab Medical Unit

Bioscientia

Birmingham Children's Hospital NHS Foundation Trust – Clinical Chemistry

Brucella Reference Unit – Liverpool Clinical Laboratories, Royal Liverpool and Broadgreen Hospital

Cambridge Clinical Laboratory

Cambridge Life Sciences

Cambridge Nutritional Science Ltd

Cardiff and Vale University Health Board – The Analytical Toxicology Department

Cerba

Chelsea and Westminister Hospital NHS Foundation Trust

CNC Forensic Toxicology Service Ltd

Douglass Hanly Moir Pathology

Epsom and St Helier University Hospital NHS Trust – Biochemistry Department

Epsom and St Helier University Hospital NHS Trust – Immunology Department

Epsom and St Helier University Hospital NHS Trust – Microbiology Department

Eurofins – Biomnis, France

Great Ormond Street Hospital – Department of Chemical Pathology

Great Ormond Street Hospital – Enzyme Unit, Chemical Pathology

Great Ormond Street Hospital – Immunology Department

Great Ormond Street Hospital – Neurometabolic Unit

Guildford RSCH Trace Element Laboratory, SAS Trace Element Centre

HCA Healthcare UK – HCA Laboratories

Health & Safety Laboratory

HFL Sport Science (LGC Group)

Homerton University Hospital – Department of Clinical Biochemistry

Igenomix UK

Imperial College Healthcare NHS Trust – Charing Cross Hospital, Chemical Pathology Department

Imperial College Healthcare NHS Trust – Charing Cross Hospital, Infection and Immunity Department

Imperial College Healthcare NHS Trust – Charing Cross Hospital, Medical Oncology

Imperial College Healthcare NHS Trust – Hammersmith Hospital, Molecular Endocrinology

Imperial College Healthcare NHS Trust, St Mary's Hospital – Virology Department

Independent Histopathology Services

Institute of Aquaculture – University of Stirling

Institute of Neurology – Neurogenetics Unit

Instituto Bernabeu Biotech

King's College Hospital – HMDC Laboratory for Molecular Haemato-Oncology

Labor Augsburg MVZ GmbH

Latis Scientific

London School of Hygiene & Tropical Medicine – Diagnostic Parasitology Lab

Matrix Diagnostics

Mayo Clinic Laboratories

Meningococcal reference unit (Men RU) Manchester – Manchester Royal Infirmary

Micropathology Ltd

National Blood Service – Colindale, Red Cell Immuno Haematology Department

NHS Blood and Transplant – Birmingham

NHS Blood and Transplant – H & I Laboratory

NHS Blood and Transplant – Tooting

Norfolk and Norwich University Hospital NHS Foundation Trust – SAS Metabolic Bone Laboratory

Oxford Immunotec

TDL Referral Laboratories

Oxford University Hospital NHS Foundation Trust – Churchill Hospital

PHE – Bacteriology Reference Department (BRD), Colindale

PHE – Virus Reference Department (VRD) – Colindale

PHE Mycology Reference Laboratory – PHE South West Laboratory, Southmead Hospital, Bristol

PHE National Mycobacterium Reference Service National Infection Service, Colindale

PHE Rare and imported pathogens laboratory – Porton Down

Queens University Hospital, Belfast – Institute of Clinical Science

Radboud University Nijmegen Medical Center

Randox Health – London

Reflab – Copenhagen

Reproductive Immunology Centre

Rosalind Franklin University

Royal Berkshire Hospital NHS Foundation Trust – Clinical Biochemistry

Royal Devon and Exeter NHS Foundation Trust

Royal Surrey County Hospital – SAS Peptide Hormone Section

Sandwell and West Birmingham NHS Trust – City Hospital Birmingham, Clinical Biochemistry Department

SCSA Diagnostics

Sheffield Children's NHS Trust – Clinical Chemistry

Sheffield Teaching Hospital NSH Foundation Trust – Protein Reference Laboratory Unit and Immunology Department

Southmead Hospital – Antimicrobial Reference Laboratory, Bristol

St George's University Hospital NHS Foundation Trust – Cell Marker Department

SYNLAB Laboratory Service – Abergavenny

The European Laboratory of Nutrients

The Leeds Teaching Hospital NHS Trust – Endocrinology Laboratory (including SAS Steroid Centre), Department of Specialist Laboratory Medicine, St James University Hospital)

The Leeds Teaching Hospitals NHS Trust – Mycology Reference Centre

The Newcastle upon Tyne Hospitals – Royal Victoria Infirmary

The Royal Marsden Hospital – Department of Haematology / Oncology

The Royal Marsden Hospital – Department of Pathology

Toxoplasma Reference Unit, Public Health Wales Microbiology ABM, Singleton Hospital – Swansea

Trace Laboratories Ltd

UCL Great Ormond Street Institute of Child Health

UCL Queen Square Institute of Neurology – Department of Neuroimmunology

University Hospital Birmingham NHS Foundation Trust – Heartlands Hospital

University Hospital of Wales – Cardiff Medical Immunology Department

Viapath – Guy's Hospital, Biochemistry Genetics Laboratory

Viapath – King's College Hospital, Clinical Biochemistry

Viapath – St Thomas' Hospital Haemophilia Centre

Viapath – St Thomas' Hospital Immunohistology

Viapath – St Thomas' Hospital Purine Research Laboratory

GROUP LABORATORIES

Royal Free London NHS Foundation Trust – Haemostasis

University College London Hospitals NHS Foundation Trust (UCLH) – Cytology

University College London Hospitals NHS Foundation Trust (UCLH) – Hospital for Tropical disease

University College London Hospitals NHS Foundation Trust (UCLH) – Molecular Virology

University College London Hospitals NHS Foundation Trust (UCLH) – Special Chemistry

TDL Genetics Referral Laboratories

All Wales Medical Genetics Service

Anthony Nolan, Histocompatability and Immunogenetics

Asper Biotech

Bioscientia GmBH

Bristol Genetics Laboratory (North Bristol NHS Trust)

CentoGene

DiaGenom GmbH

Douglass Hanly Moir Pathology

East Scotland Regional Genetics Service (NHS Tayside)

Exeter Clinical Laboratory – Department of Molecular Genetics

Fulgent Diagnostics

Institute of Neurology, Queen's Square

International Blood Group Reference Laboratory

London South East Genetics Service

Medical Genetics Laboratory – Central Manchester University Hospitals NHS Foundation Trust

Medical Neurogenetics Laboratory LLC

Micropathology Ltd

Molecular Genetics Laboratory – Liverpool's Women NHS Foundation Trust

Molecular Vision Laboratory

Newcastle Mitochondrial NGC Diagnostic Service

North East Thames Regional Genetic Service

North West London Pathology

North West Thames Regional Genetic Service

Northern Genetics Service

Oxford Genetics Laboratory – Oxford University Hospitals

Prevention Genetics

Progenika Biopharma Grifols

Protein Reference Unit & Immunology Department – Sheffield Protein Unit

Purine Research Laboratory – St Thomas' Hospital

Royal Marsden – Haemato-Oncology Unit

Sheffield Diagnostic Genetics Service

SIHMDS – Cytogenetics Laboratory, Great Ormond Street Hospital

South East Scotland Genetics Service (NHS Lothian)

South West Thames Regional Genetics Service

SYNLAB Budapest Diag Center

The Leeds Genetics Laboratory Viapath Analytics LLP

Wessex Region Genetics Service

West Midlands Regional Genetics Laboratory

West of Scotland Genetic Service (NHS Greater Glasgow and Clyde)

Terms & Conditions of Business from 1st Jan 2022

The definitions which apply to these Terms and Conditions are set out in clause 18.

1 THE SERVICES

1.1 These Terms and Conditions will apply to any services that TDL provides to the Client, unless those services are the subject of a separate written agreement signed by TDL and the Client. These Terms and Conditions apply to the exclusion of any other terms presented by the Client or implied by custom or course of dealing.

1.2 By submitting a request for any services described in the Laboratory Guide or in any other proposal provided by TDL (an '**Order**'), the Client offers to purchase those services on these Terms and Conditions. A contract between TDL and the Client for the provision of services incorporating these Terms and Conditions (an '**Agreement**') takes effect when TDL confirms acceptance of the Client's Order in writing, logs the relevant Pathology Request in its laboratory information management system, or begins performing the Services (whichever occurs first). Any request for add-on Tests (as described in the Laboratory Guide) constitutes a request for further Services under that Agreement, which TDL may accept or decline.

1.3 TDL will provide the Services under the Agreement:

1.3.1 in accordance with Good Industry Practice;

1.3.2 in accordance with the UKAS medical laboratory accreditation standard (ISO 15189); and

1.3.3 using suitably skilled and experienced staff.

1.4 TDL will use reasonable efforts to achieve the Test turnaround times quoted in the Laboratory Guide, but does not warrant that it will achieve those times in the case of any particular Sample.

1.5 The Laboratory Guide sets out Sample rejection criteria. If the Sample meets those criteria, or if TDL considers that the Sample is otherwise unsuitable for Testing or TDL is unable to conduct the Testing then TDL may decline to carry out the Testing under the Agreement and will be entitled to dispose of the Sample.

1.6 As part of its Services TDL will, on request, arrange for collection of Samples from locations within the M25 motorway. Such collection service is included within the price of the Test unless otherwise specified by TDL. Collection of Samples from locations outside the M25 is by special arrangement, and may incur an additional charge. Where collection by TDL has not been requested and agreed, the Client will be responsible, at its own cost, for the transport of Samples to TDL. Where TDL arranges collection of Samples it will use reasonable efforts to achieve the timescales it quotes for collection, but does not warrant that it will achieve those timescales in the case of any particular collection.

1.7 TDL may destroy or dispose of a Sample after completing the Testing or on termination of the Agreement, unless otherwise agreed in writing with the Client.

1.8 The Consumables shall remain the property of TDL at all times, regardless of any use by the Client of the Consumables.

1.9 In providing the Services, TDL shall comply with all Applicable Law relating to anti-bribery and anti-corruption, including the Bribery Act 2010. TDL shall not, and shall ensure that its staff do not, engage in any activity which would constitute an offence under the Bribery Act 2010.

1.10 TDL is committed to trading ethically, with zero tolerance for modern slavery (including forced labour or human trafficking of any kind), human rights violations, and child labour. In performing its obligations under this Agreement, TDL will comply with all Applicable Law and applicable internal policies relating to anti-slavery and human trafficking.

1.11 TDL's laboratories are operated by members of the TDL Group. TDL uses those laboratories to undertake the Tests, except where TDL refers the Tests to suitably accredited laboratories operated outside the TDL Group. The UKAS accreditation numbers for the TDL Group laboratories in the UK are as follows: 8059 (HSL Analytics LLP) Genetics and Molecular Sciences, 8169 (HSL Analytics LLP) Blood Sciences, 8860 (HSL Analytics LLP) Infection Sciences, 8812 (The Doctors Laboratory Limited) Haematology, Blood Transfusion, Biochemistry, Microbiology, Molecular Biology, 10199 (The Doctors Laboratory Limited) Andrology, 8511 (HSL Analytics LLP) Cytology, 9706 (The Doctors Laboratory Limited) Urine Cytology.

2 PRICE AND PAYMENT TERMS

2.1 The fees payable by the Client for the Services will be the most recent price confirmed by TDL to the Client in writing or by telephone prior to the Client submitting its Order. If TDL has not confirmed the price for the Services, the price will be that indicated in the Laboratory Guide.

2.2 As at the date of these Terms and Conditions many of TDL's services are VAT exempt. All of TDL's prices are stated exclusive of VAT and where VAT is chargeable on the Services the Client will pay it at the applicable rate.

2.3 Invoices are normally issued on a monthly basis, but TDL reserves the right to issue them more frequently. The client will pay TDL's invoices under the Agreement within 30 days of the date of the invoice, without any deduction or set off. At TDL's option interest may be charged on late payment at the statutory rate prescribed from time to time by regulations under the Late Payments of Commercial Debts (Interest) Act 1998. Invoices paid from outside the UK must be paid by either direct bank transfer or by cheque drawn on a UK branch. All payments will be made in pounds sterling.

2.4 Without affecting any of its other rights, TDL may suspend provision of the Services if the Client fails to pay an invoice due to TDL.

3 CONFIDENTIALITY

3.1 TDL agrees that it will hold and maintain the confidence of:

3.1.1 all information of a confidential nature which is received by TDL from the Client or its patients in connection with the Services; and

3.1.2 all Test results, invoices and other information of a confidential nature issued by TDL to the Client or its patients in connection with the Services, and, save with the Client's consent or as otherwise permitted under this Agreement, will not disclose such information other than to its professional staff, independent consultants and/or persons to whom it has delegated the performance of the Services and who require the information for such purpose. Where TDL has been provided with the details of a patient's private medical insurance in connection with the Services, TDL will be entitled to assume (and the Client so warrants) that both the Client and the patient consent to the disclosure of information relating to that patient to the insurer concerned.

3.2 The restrictions in clause 3.1 will not apply to information which: (i) was in TDL's possession prior to disclosure by the Client; or (ii) is now or hereafter comes into the public domain other than by default of TDL; or (iii) was lawfully received by TDL from a third party acting in good faith having a right of further disclosure; or (iv) is required by law to be disclosed by TDL; or (v) which is required by a regulatory or accreditation body to be disclosed to it for the purpose of regulating or accrediting the TDL Group.

4 CLIENT RESPONSIBILITIES

4.1 Except where TDL obtains the Sample directly from the patient during a home visit or at TDL's patient reception facility, the Client will ensure that the Sample is obtained from the patient, packaged, and labelled in accordance with Applicable Law and good clinical practice.

4.2 Except where TDL agrees to arrange transport of the Sample to TDL's laboratory, the Client will ensure that the Sample is transported to TDL's laboratory in accordance with Applicable Law and good clinical practice. Where TDL agrees to arrange transport of the Sample the Client will ensure that the Samples are ready for collection by TDL or its carrier at the agreed times.

4.3 The Client will ensure that all necessary consents and permissions are obtained and all necessary information provided to the patient, which is required under Applicable Law or good clinical practice in order to permit the Testing, the performance of and any other Services, and the use of the Protected Data as contemplated in the Agreement.

4.4 The Client will provide TDL with any information reasonably necessary for performing the Services, including by ensuring that the Pathology Request contains sufficient information regarding the Sample, the relevant patient, and the persons to whom the Test results are to be reported, and will ensure that any information the Client provides to TDL in connection with the Services is accurate and complete.

4.5 The Client shall ensure that any Consumables provided by TDL are only used by healthcare professionals who are appropriately qualified and trained in the proper use of such Consumables. The Client shall ensure the healthcare professionals use the Consumables in accordance with any instructions relating to the use of the Consumables provided by TDL and in any event with the degree of skill and care reasonably to be expected of a healthcare professional experienced in the use of such Consumables.

5 LIABILITY

5.1 Nothing in the Agreement will limit or exclude liability for death or personal injury caused by negligence or any other liability that cannot be limited or excluded under Applicable Law.

5.2 In these Terms and Conditions 'liability' means any liability whether in contract, tort (including negligence), misrepresentation, breach of statutory duty or otherwise, which arises in connection with the Services or under or in connection with any Agreement.

5.3 The liability of TDL and the Client will each be limited to £2,000,000 in total. This limit applies per Agreement and in aggregate for all Agreements made in a calendar year.

5.4 Neither TDL nor the Client will have any liability for:

5.4.1 loss of profit or revenue;

5.4.2 loss of anticipated savings;

5.4.3 loss of reputation or goodwill; or

5.4.4 indirect, special or consequential loss.

5.5 TDL will have no liability for any delay or failure in performance of the Services arising from the Client's delay or failure in performing its obligations under clause 4 (Client Responsibilities).

5.6 All of the warranties which TDL gives in relation to the Services are expressly set out in these Terms and Conditions. All other warranties, whether implied or express, are excluded from the Agreement where it is lawful to exclude them.

5.7 In this clause 5 references to TDL include the members of TDL's Group, and for the purpose of the limit in clause 5.3 the liabilities of TDL and the TDL Group Members will be counted in aggregate. The members of TDL's Group may enforce this clause 5.

6 FORCE MAJEURE

If the performance of any obligation under the Agreement (except for an obligation to pay) is prevented, restricted or interfered with by reason of circumstances beyond the reasonable control of that party obliged to perform it (a '**Force Majeure Event**'), the party so affected will be excused from any resulting failure or delay in performance, and the time for performance will be extended by an amount of time equal to the duration of the Force Majeure Event. The party so affected will use reasonable endeavours to mitigate the effect of the Force Majeure Event on its performance of its obligations. If the Force Majeure Event delays or prevents performance of a party's obligations for more than three months, either party may terminate the agreement on written notice to the other.

7 DATA PROCESSOR AND DATA CONTROLLER

7.1 When TDL processes Protected Data on behalf of the Client in providing the Services the parties agree that the Client will be the data controller and TDL will be the data processor. The Annex to these Terms and Conditions sets out when TDL processes Protected Data on behalf of the Client. Clause 16 describes the circumstances where TDL will use Protected Data on its own behalf as data controller.

7.2 When TDL processes Protected Data as the data processor, clauses 8 to 15 will apply in relation to the Protected Data. Where TDL processes Protected Data as data controller, clause 16 will apply instead.

7.3 The Client will comply with the Data Protection Laws in relation to the Protected Data, and ensure that all instructions given by it to TDL in respect of Protected Data will at all times be in accordance with Data Protection Laws.

8 DATA PROCESSING INSTRUCTIONS

8.1 When TDL processes Protected Data as the data processor, TDL will comply with the obligations of data processors under Data Protection Laws.

8.2 Unless required to do otherwise by Applicable Law, TDL will (and will take steps to ensure each person acting under its authority will) process the Protected Data only in accordance with the Client's documented instructions as set out in the Order, pursuant to the Terms & Conditions, and in the Annex (the '**Processing Instructions**').

8.3 If Applicable Law requires TDL to process Protected Data other than in accordance with the Processing Instructions, TDL will notify the Client of any such requirement before processing the Protected Data (unless Applicable Law prohibits TDL from doing so).

8.4 TDL will promptly inform the Client if TDL becomes aware of a Processing Instruction that, in TDL's opinion, infringes Data Protection Laws. TDL will have no liability for any processing in accordance with those Processing Instructions after giving the notice. TDL's obligations under this clause 8.4 do not limit the Client's obligations under clause 7.3.

9 DATA SECURITY MEASURES

In relation to the processing of the Protected Data, TDL will implement and maintain, at its cost and expense, appropriate technical and organisational measures to ensure for the Protected Data a level of security appropriate to the risks presented by the processing, taking into account the state of the art, the cost of implementation and the nature, scope, context and purpose of the processing of the Protected Data as well as the risk of varying likelihood and severity of the rights and freedoms of natural persons.

10 USING STAFF AND OTHER PROCESSORS

10.1 TDL will not engage any data processor to process the Protected Data on the Client's behalf (a '**Sub-Processor**') without the Client's authorisation of that specific Sub-Processor. The Client will not unreasonably withhold, condition or delay such consent. By accepting these Terms and Conditions the Client authorises the appointment of the Authorised Sub-Processors.

10.2 TDL will ensure that each Sub-Processor is appointed under a written contract containing materially the same obligations as clauses 8 to 15 (inclusive).

10.3 TDL will ensure that all persons authorised to process Protected Data are subject to a binding obligation to keep the Protected Data confidential (except where disclosure is required in accordance with Applicable Law, in which case TDL will, where practicable and not prohibited by Applicable Law, notify the Client of any such requirement before such disclosure).

11 ASSISTANCE WITH THE CLIENT'S COMPLIANCE AND DATA SUBJECT RIGHTS

11.1 Taking into account the nature of the processing, TDL will implement and maintain reasonable measures to assist the Client to respond to the Data Subject Requests relating to the Protected Data that TDL processes on the Client's behalf. TDL will refer such Data Subject Requests it receives to the Client promptly, and in any event within five Business Days of receipt of the request.

11.2 TDL will provide such assistance as the Client reasonably requires (taking into account the nature of processing and the information available to TDL) to the Client in ensuring compliance with the Client's obligations under Data Protection Laws with respect to: (i) security of processing, (ii) data protection impact assessments (as such term is defined in Data Protection Laws), (iii) prior consultation with the relevant regulator regarding high risk processing, (iv) and notifications to the regulator and/or communications to data subjects by the Client in response to any Personal Data Breach. The Client will pay TDL's charges for providing the assistance in this clause 11, such charges to be calculated on a time and materials basis at TDL's applicable daily or hourly rates in force from time to time.

12 INTERNATIONAL DATA TRANSFERS

The Client agrees that TDL may transfer Protected Data to countries outside the United Kingdom for the purpose of providing the Services, provided all transfers by TDL of Protected Data to such recipients are in accordance with such safeguards or other mechanism(s) for transfers of personal data as may be permitted under Data Protection Laws from time to time. The Client agrees that TDL may implement such safeguards by entering into standard data protection clauses authorised under the Data Protection Laws, which TDL may do as agent on behalf of the Client. The provisions of clauses 8 to 15 (inclusive) will constitute the Client's instructions with respect to transfers in accordance with clause 8.2.

13 RECORDS, INFORMATION AND AUDIT

13.1 TDL will maintain, in accordance with Data Protection Laws binding on TDL, written records of all categories of processing activities carried out on behalf of the Client.

13.2 TDL will, in accordance with Data Protection Laws, make available to the Client such information as is reasonably necessary to demonstrate TDL's compliance with its obligations as a data processor under these Terms and Conditions and the Data Protection Laws, and allow for and contribute to audits, including inspections, by the Client (or another auditor mandated by the Client) for this purpose, subject to the Client:

13.2.1 giving TDL reasonable prior notice of such information request, audit and/or inspection being required by the Client;

13.2.2 ensuring that all information obtained or generated by the Client or its auditor(s) in connection with such information requests, inspections and audits is kept strictly confidential (save for disclosure to the relevant regulator or as otherwise required by Applicable Law);

13.2.3 ensuring that such audit or inspection is undertaken during normal business hours, with minimal disruption to TDL's business, the Sub-Processors' business and the business of other customers of TDL.

14 BREACH NOTIFICATION

TDL will, without undue delay notify the Client of the Personal Data Breach involving the Protected Data, and provide the Client with details of the Personal Data Breach.

15 DELETION OR RETURN OF PROTECTED DATA AND COPIES

TDL will, at the Client's written request, either delete or return all of the Protected Data to the Client in such form as the Client reasonably requests within a reasonable time after the end of the provision of the relevant Services related to processing, and delete existing copies (unless storage of any data is required by Applicable Law and, if so, TDL will inform the Client of any such requirement). Where TDL will process that Protected Data as data controller under clause 16, TDL may retain the Protected Data.

16 PROTECTED DATA THAT TDL PROCESSES AS A DATA CONTROLLER

16.1 TDL may process Protected Data as data controller in the circumstances and for the purposes set out in TDL's Privacy Notice. In particular TDL may:

16.1.1 retain and submit Protected Data to a Health Authority in the United Kingdom for the purposes of a Public Health Programme operated by that Health Authority, or to regulator for the purpose of complying with regulatory obligations; and

16.1.2 retain and process Protected Data in its laboratory records in order to meet the requirements of the UKAS medical laboratory accreditation standard (ISO 15189) and implement the guidelines of the Royal College of Pathologists for the retention and storage of pathological records and specimens.

16.3 When TDL processes Protected Data to provide Harmony® Non-Invasive Prenatal Tests, TDL does so as a data controller.

16.4 When TDL processes personal data on its own behalf as data controller, it will do so in accordance with the obligations of data controllers under Data Protection Laws and with the applicable terms of the Agreement.

17 GENERAL

17.1 Dispute resolution

17.1.1 If any dispute arises relating to this Agreement or any breach or alleged breach of this Agreement, the parties will make a good faith effort to resolve such dispute without recourse to legal proceedings. If, notwithstanding such good faith efforts, the dispute is not resolved either party may submit the dispute to the jurisdiction of the English Courts.

17.1.2 Except to the extent clearly prevented by the area of dispute, the parties will continue to perform their respective obligations under this Agreement while such dispute is being resolved.

17.2 Variation

17.2.1 TDL may amend these Terms and Conditions by updating the Laboratory Guide and providing the Client with a copy of the update or publishing it on TDL's website. Such amendments will only apply to an Order submitted after the date of the update, and the Client will be deemed to accept those amendments by submitting an Order after that date.

17.2.2 Except as set out in clause 17.2.1, any amendments to this Agreement will not be effective unless in writing and signed by an authorised signatory on behalf of each of the parties. The terms of this Agreement may be varied by agreement of the parties but without the consent of any third party whether or not the rights of such third party are affected by such variation. The Client will not unreasonably withhold, delay or condition its agreement to any variation to this Agreement requested by TDL in order to ensure the Services and TDL (and each Sub-Processor) can comply with any change in Applicable Laws.

17.3 Rights and waiver

All rights granted to either of the parties will be cumulative and not exhaustive of any rights and remedies provided by law. The failure of either party to enforce (or delay in enforcing) at any time for any period any one or more of the terms of this Agreement will not be a waiver of such term or of the right of such party at any time subsequently to enforce all the terms of this Agreement.

17.4 Severability

If any provision of this Agreement is or becomes invalid, illegal or unenforceable in any respect under any law, the validity, legality and enforceability of the remaining provisions will not be in any way affected.

17.5 Sub-contracting and Assignment

TDL may assign or sub-contract the performance of this Agreement (in whole or in part) or any one or more of the Tests to be performed hereunder to suitably accredited laboratories including those listed in the Laboratory Guide. The Client may not assign this Agreement or any of its rights or obligations hereunder without the prior approval of TDL.

17.6 Relationship of the parties

It is acknowledged and agreed that TDL and the Client are independent contractors and nothing in this Agreement will create or be construed as creating a partnership or (except as provided in clause 12 and the Annex) a relationship of agent and principal between the parties. The Client acknowledges and agrees that, in requesting Services from TDL, it is not acting as agent for any patient or patients to which the Services relate.

17.7 Notices

All notices given under this Agreement will be in writing and will be delivered by hand or sent by prepaid first class post or by prepaid first class recorded delivery or by email transmission. All notices will be delivered at or sent, in the case of TDL, to The Halo Building,1 Mabledon Place, London WC1H 9AX, email notices@tdlpathology.com and, in the case of the Client to the address and/or email address set out in the Order (or such other address as that party will notify in writing to the other for this purpose). A notice sent by post will be deemed to be served at 9.00 am on the second Business Day following the date of posting; a notice sent by email transmission will (provided the sender receives no error message indicating that delivery has been unsuccessful) be deemed to have been served at the time it is transmitted if transmitted within business hours (9.00 am to 6.00 pm) on a Business Day or, if transmitted outside such business hours on a Business Day or on a day which is not a Business Day as soon thereafter as such business hours commence.

17.8 Entire agreement

The Agreement is set out in the Order and these Terms and Conditions, which together set out the entire contract between the Client and TDL relating to their subject matter. In the event of a conflict between the Order and these Terms and Conditions, the Terms and Conditions will take priority. Each party acknowledges that it has not entered into the Agreement in reliance on, and will have no remedies in respect of, any representation or warranty that is not expressly set out in the Agreement except in the case of fraudulent misrepresentation.

17.9 Third parties

The Agreement is not intended to create any rights for, nor be enforceable by, any third party except as set out in clause 5.

17.10 Governing law

The Agreement and any dispute arising out of or in connection with it (including non-contractual disputes and claims) will be governed by and construed in accordance with English law and each of the parties submits to the exclusive jurisdiction of the English Courts.

18 INTERPRETATION

18.1 In these Terms and Conditions and the Annex:-

'Agreement' has the meaning given in clause 1.2;

'Annex' means the annex to the Terms and Conditions;

'Applicable Law' means the laws, regulations, judgments, binding on the relevant party, as amended from time to time;

'Authorised Sub-Processors' means:

a) Health Service Laboratories LLP and any other member of the TDL Group which provides the applicable Test or Service;

b) accredited specialist centres for onward referral of esoteric assays as identified in the TDL Laboratory Guide;

c) persons who provide information technology services that TDL uses in the course of providing the Services; and

d) any Sub-Processor referred to in the Annex;

'Business Day' means a day other than a Saturday, Sunday, or public holiday in England;

'Client' means the person or organisation requesting Services from TDL and for whom TDL has agreed to provide the Services;

'controller', 'data subject', 'personal data', 'process' and 'processor' have the meanings given to those terms in Data Protection Laws;

'Consumables' means any goods provided by TDL in order for the Client to benefit from the Services;

'Data Protection Laws' means the UK GDPR, the Data Protection Act 2018, and any other Applicable Law having effect in the United Kingdom concerning privacy or the use of personal data;

'Data Subject Request' means a request made by a data subject to exercise any rights of data subjects under Data Protection Laws;

'Good Industry Practice' means the standard of skill and care reasonably to be expected from a professional provider of the Services;

'Group' in respect of any undertaking, means such undertaking and its group undertakings ('undertaking' and 'group undertaking' having the meanings given in the Companies Act 2006);

'Health Authority' means (i) a department of the UK government or of a devolved administration, (ii) an executive agency of such department, or (iii) a body exercising statutory functions in relation to public health in the UK or any part of the UK;

'Laboratory Guide' means TDL's Laboratory Guide current at the time the Client submits the Order, as supplied to the Client or, if not so supplied, available on request from TDL, including any updates or supplements issued by TDL;

'Order' has the meaning given in clause 1.2;

'Pathology Request' means an Order requesting Testing;

'Personal Data Breach' means any breach of security leading to the accidental or unlawful destruction, loss, alteration, unauthorised disclosure of, or access to, any Protected Data;

'Privacy Notice' means TDL's detailed Privacy Notice available at tdlpathology.com;

'processing' has the meanings given to that term in Data Protection Laws (and related terms such as process have corresponding meanings);

'Processing Instructions' has the meaning given to that term in paragraph 8.2;

'Protected Data' means personal data provided to TDL by the Client or a third party on the instructions of the Client, or collected or generated by TDL in the course of the Services;

'Public Health Programme' means a programme administered by a Health Authority to monitor or analyse health data for the purpose of public health or for statistical, scientific or research purposes in the public interest;

'Sample' means a sample provided by the Client to TDL for Testing;

'Services' means the services to be provided under the Agreement;

'Sub-Processor' has the meaning given in clause 10.1;

'TDL' means The Doctors Laboratory Limited or such other member of the TDL Group as has agreed to provide the Services;

'TDL Group' means The Doctors Laboratory Limited and its Group and Health Service Laboratories LLP and its Group;

'Test' means a laboratory test to be carried out by TDL on a Sample, and 'Testing' means the process of conducting that Test and reporting the results;

'UKAS' means the United Kingdom Accreditation Service, or any successor to it;

'UK GDPR' has the same meaning as it does in section 3(10) of the Data Protection Act 2018, read with section 205(4) of that Act.

18.2 References to the singular include the plural and vice versa.

18.3 Clause headings and paragraph headings are for ease of reference only and are not part of these Terms and Conditions for the purpose of construction.

18.4 References to paragraphs are to paragraphs of the Annex.

18.5 Words following the terms 'including', 'include', 'in particular', 'for example' or any similar expression shall be construed as illustrative and shall not limit the sense of the words, preceding those terms.

18.6 The Annex is incorporated into these Terms and Conditions.

ANNEX

1 Subject matter and nature of processing

1.1 TDL processes Protected Data as data processor on behalf of the Client:

1.1.1 in the case of Testing, when TDL receives a Pathology Request and Sample and processes the corresponding Protected Data to carry out the Test and report the Test results in accordance with the Client's documented instructions;

1.1.2 when TDL carries out the Client's 'fee to patient' instructions, as described below; and

1.1.3 in the case of any other Services, when TDL is required to process the Protected Data on the Client's behalf to fulfil the Client's instructions.

1.2 The subject matter and nature of TDL's processing of the Protected Data are:

1.1.1 pathology samples and test results for the purpose of providing clinical pathology services;

1.1.2 information about clinicians who order pathology tests, for the purposes of reporting the test results to the Client;

1.1.3 information about a patient's health insurance for the purposes of administering payment for the Services; and

1.1.4 billing information for a patient where the Client has asked TDL to direct TDL's invoice to the patient.

2 Duration of processing

The duration of the processing is the time necessary to carry out the Services.

3 Types of personal data

3.1 The Protected Data comprise the following types of personal data:

3.1.1 Name

3.1.2 Gender

3.1.3 Date of birth

3.1.4 Address

3.1.5 Identity numbers assigned by TDL or the Client

3.1.6 Types of pathology tests conducted

3.1.7 Results of pathology tests

3.1.8 Health insurance policy details

3.1.9 Billing information

3.1.10 The types of data referred to in the TDL Laboratory Guide

4 Categories of data subjects

The Protected Data concerns patients in respect of whom TDL conducts pathology tests, and clinicians who request pathology tests.

5 Reporting pathology test results

5.1 TDL will report Test results using the method selected by the Client from the range of options offered by TDL or, if no method is selected by the Client, using a method selected by TDL from that range of options.

5.2 TDL will report the Test results using the contact details supplied to TDL in the relevant section of the Pathology Request. The Client will be responsible for ensuring that those contact details are correct.

5.3 Where TDL supplies Test results electronically it will ensure that the results are supplied in the format selected by the Client (from the range of options offered by TDL) and are supplied to the address indicated when the Client selects electronic results reporting. The Client will be responsible for ensuring that the selected format is compatible with the Client's information systems and for making the results available to the users of those systems.

6 Fee to patient

Where the Client selects the 'fee to patient' option in a Pathology Request Form, the Client instructs TDL to seek payment from the patient of the fees owed by the Client in respect of that test. The Client confirms that the patient has agreed with the Client to pay those fees to TDL for the Client. The Client instructs TDL to recover the fees by invoicing the patient using the personal data provided by the Client. The Client instructs TDL on the Client's behalf to appoint debt collectors to recover the fees from the patient if the patient does not pay the invoice by the date payment falls due. The Client authorises TDL to appoint those debt collectors as Sub-Processors in accordance with clauses 8 to 15.

THE DOCTORS LABORATORY

Antenatal Screening Service for Down's, Edwards & Patau Syndromes and Open Neural Tube Defects

TAP2842C/16-11-2021/V4

First ☐ Second ☐ Trimester (please tick as required)

Weeks 11-13 ☐ Weeks 14-21 (16 ideal) ☐ Name of Requesting Doctor: _____

MATERNAL SCREENING FOR DOWN'S SYNDROME AND NEURAL TUBE DEFECTS

If you have a query with completing this form, please telephone the Referrals Dept at The Doctors Laboratory on 020 7307 7373

PATIENT DETAILS

Surname: **Hospital No.:**

Forename: **Date of birth:** D D M M Y Y

NHS No.: **Post code:**

CLINICAL DETAILS (To be completed by Midwife or Doctor)

First day of Last Menstrual Period (LMP) D D M M Y Y

Vaginal bleed in the last 7 days? (no=0, yes=1) If yes please see overleaf ☐

Maternal weight (kgs) ☐

Height (cms) ☐

Previous Neural Tube Defect pregnancies (none=0, one=1, two or more=2) ☐

Previous Down's Syndrome pregnancies (none=0, non-inherited=1, inherited translocation=2, type not known=3) ☐

If the patient had a previous pregnancy with Down's syndrome how old was she at the time? ☐

Previous other chromosomal pregnancy (no=0, yes=1). If yes, please specify abnormality and year diagnosed: ☐

Family origin: (Black Caribbean/African=1, White European=2 Indian/Pakistani/Bangladeshi/Sri Lankan=4, Chinese/Japanese/SE Asian=5, Other=6). If other, please specify: ☐

Does the patient have Insulin dependent diabetes? (no=0, yes=1) ☐

Is this an IVF pregnancy? (no=0, yes=1) ☐

If yes egg collection date: D D M M Y Y

embryo transfer date D D M M Y Y

If egg(s) donated enter the donor's DOB D D M M Y Y

If unknown, enter donor age ☐

Does the patient smoke? (no=0, yes=1, given up during pregnancy=2, e-cigarettes=3, patches=4) ☐

If yes, number of cigarettes per day ☐

Did the patient take a daily supplement containing Folic Acid? (no=0, before becoming pregnant=1, once she knew she was pregnant=2) ☐

Has the patient had pre-eclampsia in a previous pregnancy? (no=0, yes=1) ☐

If the patient has had an amniocentesis performed prior to this test please see overleaf.

ULTRASOUND SCAN

Date of scan D D M M Y Y

Hospital where scanned _____

Number of fetuses ☐

If twins are they monochorionic or dichorionic? (MC=1, DC=2) ☐

Name of Sonographer _____

Sonographer ID Code ☐

	FETUS 1	FETUS 2
Nuchal translucency (NT) (mm):		
Crown rump length (CRL) (mm):		
Head circumference (HC) (mm):		

Gestational age at time of scan ☐ weeks ☐ days

EDD D D M M Y Y

Date of serum sample D D M M Y Y Time taken _____ Sample taken by _____

Was the DNA sample taken at the same time (no=0, yes=1) ☐ If no, please complete below:

Date of DNA sample D D M M Y Y Time taken _____ Sample taken by _____

ADDRESS TO WHICH REPORT SHOULD BE SENT

_____

_____

Tel _____ Email _____

Leukaemic studies request
(Cytogenetics/Molecular Genetics)

THE DOCTORS LABORATORY

Lab No: _____ Priority Code: _____

Surname: _____ First Name: _____

Hospital No.: _____ Date of Birth: D D M M Y Y Y Y

Consultant: _____ Gender: ☐ Male ☐ Female

Sample Type: _____ Sample WBC (x10^9/l): _____

Sample Date: _____ Sample Vol. (ml): _____

Date Received: D D M M Y Y Y Y Time Received: _____

Sample Comments: _____ Amount Sample/Culture: _____ Check: _____

Referral centre/hospital: _____

Full postal address: _____

_____

Tel: _____ Email: _____

Referral reason/Clinical details: _____

_____

_____

Disease stage: _____ Treatment stage: _____

Karyotype analysis required? ☐ Yes ☐ No

FISH required? ☐ Yes ☐ No Probes: _____

RT-PCR Required? ☐ Yes ☐ No Gene Fusion: _____

SAMPLE REQUIREMENTS

In preservative-free heparin and RPMI medium

Preferred volume	**Peripheral Blood**	Adult: 10mls	Child: 2-5mls
	Bone Marrow	Adult: 5-10ml	Child: 2-5mls
Optimal time in transit	**Peripheral Blood:** 48hrs		**Bone Marrow:** 24hrs

☐ Fee to be paid by Patient/Other. **PLEASE PROVIDE ADDRESS DETAILS**

☐ Fee to be paid by Doctor/Clinic as above

Insurance Co. _____ Membership No. _____

Patient address _____

_____

_____ Postcode _____ Contact telephone number _____

Genetic Request

THE DOCTORS LABORATORY

In order to provide an efficient service for Genetic Requests, please complete the following:

PATIENT DETAILS

Surname: _____

First Name: _____

Date of Birth: _____ Gender: ☐ M ☐ F

Patient Number: _____

Ethnic Origin: _____

Gestation (if applicable): _____ weeks

REFERRING DOCTOR

Name: _____

Address: _____

_____

_____

Tel: _____

Email: _____

TEST REQUEST

Disease Name: _____

Gene(s) to be Analysed: _____

Test for: ☐ Diagnosis ☐ Carrier Screening ☐ Known Family Mutation

Clinical Symptoms: _____

Family History: _____

Please state any Family Gene Mutation(s) if known: _____

Please also provide copies of any relevant genetic or pathology (ie. haematology) reports.

INFORMED CONSENT

PATIENT OR GUARDIAN

Please cross-out where applicable:

I consent / do not consent to be tested for the genetic test(s), which have been explained to me

I consent / do not consent for the results of this test to be available to assist in testing other family members

I consent / do not consent for DNA from this sample to be stored

I consent / do not consent for DNA to be used anonymously for relevant research

Signed: _____ Date: ___/___/___

DOCTOR / GENETIC COUNSELLOR

I have explained the purpose of obtaining a blood or tissue sample for genetic testing.

Signed: _____ Date: ___/___/___

This consent form is for use with diagnostic testing. It is important to think through the implications of genetic testing for other family members. We strongly recommend genetic counselling for predictive testing in disorders such as Huntington's Disease or inherited cancers. Please contact our Consultant if you have queries about consent or counselling issues.

☐ Fee to be paid by Patient/Other. **PLEASE PROVIDE ADDRESS DETAILS**

Insurance Co. _____ Membership No. _____

Patient address _____

_____

_____ Postcode _____ Contact telephone number _____

☐ Fee to be paid by Doctor/Clinic as above

Supplies re-order form

Tel: 020 7307 7373
Email:supplies@tdlpathology.com

THE DOCTORS LABORATORY

Doctor/Practice: _____

Address: _____

_____

Requested by: _____ Tel: _____

DATE OF ORDER

IF URGENT BY

VACUTAINER TUBES	No. Required
☐ EDTA 4ml Lavender	[ ]
☐ EDTA 10ml Lavender (For STDX)	[ ]
☐ SST/Serum 5ml Gold	[ ]
☐ Fluoride Ox./Glucose 4ml Grey	[ ]
☐ Lithium Heparin 6ml Green	[ ]
☐ No Additive Red 6ml	[ ]
☐ Sod. Heparin 6ml Dark Blue	[ ]
☐ Citrate 4.5ml Light Blue	[ ]

VACUTAINER NEEDLES	No. Required
☐ 21g Green	[ ]
☐ 21g Butterfly Green	[ ]
☐ 22g Black	[ ]
☐ 23g Butterfly Blue	[ ]
☐ VACUTAINER BARREL WHITE	[ ]

SYRINGES (20)

☐ 10ml ☐ 20ml

HELICOBACTER PYLORI	No. Required
☐ Breath/Blow Bags	[ ]

URINE/STOOL CONTAINERS	No. Required
☐ Urine/Universal Container pots 30ml	[ ]
☐ Urine/Universal Container pots 60ml	[ ]
☐ 24 hour Urine Containers	[ ]
☐ Stool Pot	[ ]
☐ FOB Pot	[ ]

REQUEST FORMS

☐ Singles ☐ Duplicates

PERSONALISED BARCODED FORMS

☐ Singles ☐ Duplicates

SAMPLE BAGS	No. Required
☐ Clear Small	[ ]
☐ Clear Large	[ ]
☐ Red (Urgent)	[ ]
☐ Large Sample Practice Packing Bag	[ ]

SWABS, GYNAE & NON-GYNAE CYTOLOGY	No. Required
☐ Speculum (10) S ☐ M ☐ L ☐	
☐ Thin Prep Vial + Thin Prep Brush	[ ]
☐ Microbiology CULTURE Swabs BLUE	[ ]
☐ ENT/Urethral CULTURE Swabs ORANGE	[ ]
☐ PCR Swabs (chlamydia, herpes, etc) BLUE	[ ]
☐ PCR Swabs (chlamydia, herpes, etc) PINK	[ ]
☐ Histology Pots 60ml	[ ]
☐ Virology Swabs GREEN	[ ]
☐ Blood Culture Bottles	[ ]

OTHERS – PLEASE SPECIFY

POSTAL PACKS *(All postal packs are made up with Royal Mail Track 24 return postal envelopes and labels.)*	No. Required
☐ Haem/Bio (Lavender/Gold/Grey vacutainer)	[ ]
☐ Single SST vacutainer	[ ]
☐ 30ml MSU/DOA (Non Chain of Custody)	[ ]
☐ COVID-19 Antibody (blood) kit for self-collection	[ ]
☐ COVID-19 PCR swab kit	[ ]
☐ DOA (with Chain of Custody)	[ ]
☐ FOB pack to QFIT pack	[ ]
☐ Group B Strep (GBS) kit	[ ]
☐ HPV Swab kit for self-collection	[ ]
☐ Stool (now brown not blue)	[ ]
☐ Thin Prep Vial postal pack	[ ]

TAP2537E/16-11-21/V5

PATIENT RECEPTION AT:
THE DOCTORS LABORATORY
76 Wimpole Street, London W1G 9RT
Monday to Friday 7.00am–7.00pm
Saturday 7.00am–1.00pm
Main Tel: 020 7307 7373
Out of hours samples may be dropped at 76 Wimpole St

CLINICIAN

SOURCE

Doctor

Address

Tel

Email

Additional copy of results to:

SURNAME																DOB	/ /
FORENAME											TITLE					M/F	

When completing this form please provide at least three unique identifiers for your patient.

Patient Ref/ID No.

	Please Tick	
(Biochemistry)	DL1	☐
(Biochemistry/HDL)	DL1L	☐
(Haem/Bio)	DL2	☐
(Haem/Bio/HDL)	DL2L	☐
(Haematology)	DL3	☐
(Haem/Bio (short))	DL4	☐
(Haem/Bio/HDL)	DL4L	☐
(Postal Haem/Bio)	DL5	☐
(Postal Haem/Bio/HDL)	DL5L	☐
Well Person Screen (DL2/T4/TSH/Ferritin)	DL6	☐
Well Person Screen (DL2L/T4/TSH/Ferritin)	DL6L	☐
Well Man Screen (DL6/PSA/Ferritin)	DL7	☐
Well Man Screen (DL6L/PSA/Ferritin)	DL7L	☐
Well Person Screen (DL6/VITD/Ferritin)	DL8	☐
Well Person Screen (DL6/HDL/VITD/Ferritin)	DL8L	☐
Senior Male Profile 60+	DL9M	☐
Senior Female Profile 60+	DL9F	☐
Cardiovascular Risk Evaluation Profile	DL10	☐
Cardiovascular Risk Plus Profile	DL11	☐
Sexual Health 7 STI screen by PCR	DL12	☐

Home Visit ☐

PATIENT DETAILS

LMP: / /

Last smear: / (MONTH / YEAR)

Routine screen ☐

Colposcopy ☐

Previous HPV -ve ☐ +ve ☐

Previous abnormal history (please specify):

TESTS (PLEASE SPECIFY)

☐ **PAPT**
A HR-HPV test will always be carried out if PAPT is requested as a single test. HPV will be charged.

☐ **HPV HR-HPV mRNA**
If HPV is requested as a single test and is Positive/Detected, cervical cytology (PAPT) will be carried out from the same vial without charge.

☐ **HP20 28 LR+HR HPV DNA subtypes**
If HP20 is requested as a single test and is Positive/Detected for HR subtypes, PAPT will be carried out without charge.

☐ **HPVT HP20 plus mRNA E6/E7 oncoproteins**
If HPVT is requested as a single test and is Positive/Detected, PAPT will be carried out without charge.

☐ **TPCR** Thin Prep Chlamydia

☐ **TGON** Thin Prep Gonorrhoea

☐ **TCG** Thin Prep CT/GC

☐ **CCGT** CT/GC/Trichomonas

☐ **CGTM** CT/GC/Trichomonas/Mgen

☐ **7 STI (DL12)**

PROFILES AND TESTS
Please specify

TAP3643D/14-11-21/V9

Clinical Details

☐ Fasting (tick if yes)

☐ Ethnic Origin (details, if relevant) _____

☐ Drug Therapy (Please specify) _____

☐ Fee to be paid by Patient/Other. **PLEASE PROVIDE ADDRESS DETAILS**

Insurance Co. _____ Membership No. _____

Patient address _____

_____ Postcode _____ Contact telephone number _____

☐ Fee to be paid by Doctor/Clinic as above

Signature _____

Date sample taken _____

Time sample taken _____

For Practice Use Only:					
EDTA	SST	GREY	MSU	OTHERS	INITIALS

For Laboratory Use Only:					
EDTA	SST	GREY	MSU	OTHERS	INITIALS

For Patient Service's Use Only:			
TIME IN R	TIME IN Ph	TIME OUT Ph	TAKEN BY INITIALS

THE DOCTORS LABORATORY

Vacutainer	Anticoagulant	Capacity	SAMPLE TYPES
Lavender	EDTA	4ml/10ml*	A
Gold	SST/Gel	5ml	B
Light Blue	Citrate	4.5ml	C
Red	None	6ml	F
Grey	Fluoride oxalate	2ml, 4ml	G
Green	Lithium heparin	6ml	H
Dark Blue	Sodium heparin	7ml	K

* 10ml EDTA tubes are used for specific PCR assays

Blood culture bottle: contact laboratory	**BC**
Contact laboratory for advice on sample taking	**J**
Test by appointment	**X**
Random Faeces	**RF**
Faecal Collection	**LF**
Random Urine	**RU**
Mid Stream Urine	**MSU**
First Catch Random Urine (for DL12/Chlamydia, etc.)	**FCRU**
30ml aliquot from a 24 hour urine collection – state total volume	**CU**
30ml aliquot from a 24 hour urine collection with 10ml of 0.1N Hydrochloric Acid added – state total volume	**PU**
Early Morning Urine (1st sample of the day)	**EMU**
60ml container (sterile)	**SC**
Cytyc Thin Prep Vial	**TPV**
Orange/Blue swab for culture – swab in transport medium/Blue microswab	**STM**
Black Charcoal swab	**CS**
Green Viral swab	**VS**
PCR swab for Chlamydia/PCR Infection Screening	**PCR**
Tap/bottled water mouth wash – 20mls	**MW**
Ammotic fluid (5mls PCR – 10mls Karyotype)	**AF**
Chorionic Villus (medium provided by laboratory)	**CVS**
Urine cytology container	**UCYT**

The Doctors Laboratory
The Halo Building, 1 Mabledon Place, London WC1H 9AX
Tel: 020 7307 7373 Email: tdl@tdlpathology.com
Web: www.tdlpathology.com

Please recycle responsibly. Printed on FSC accredited Novatech Matt.