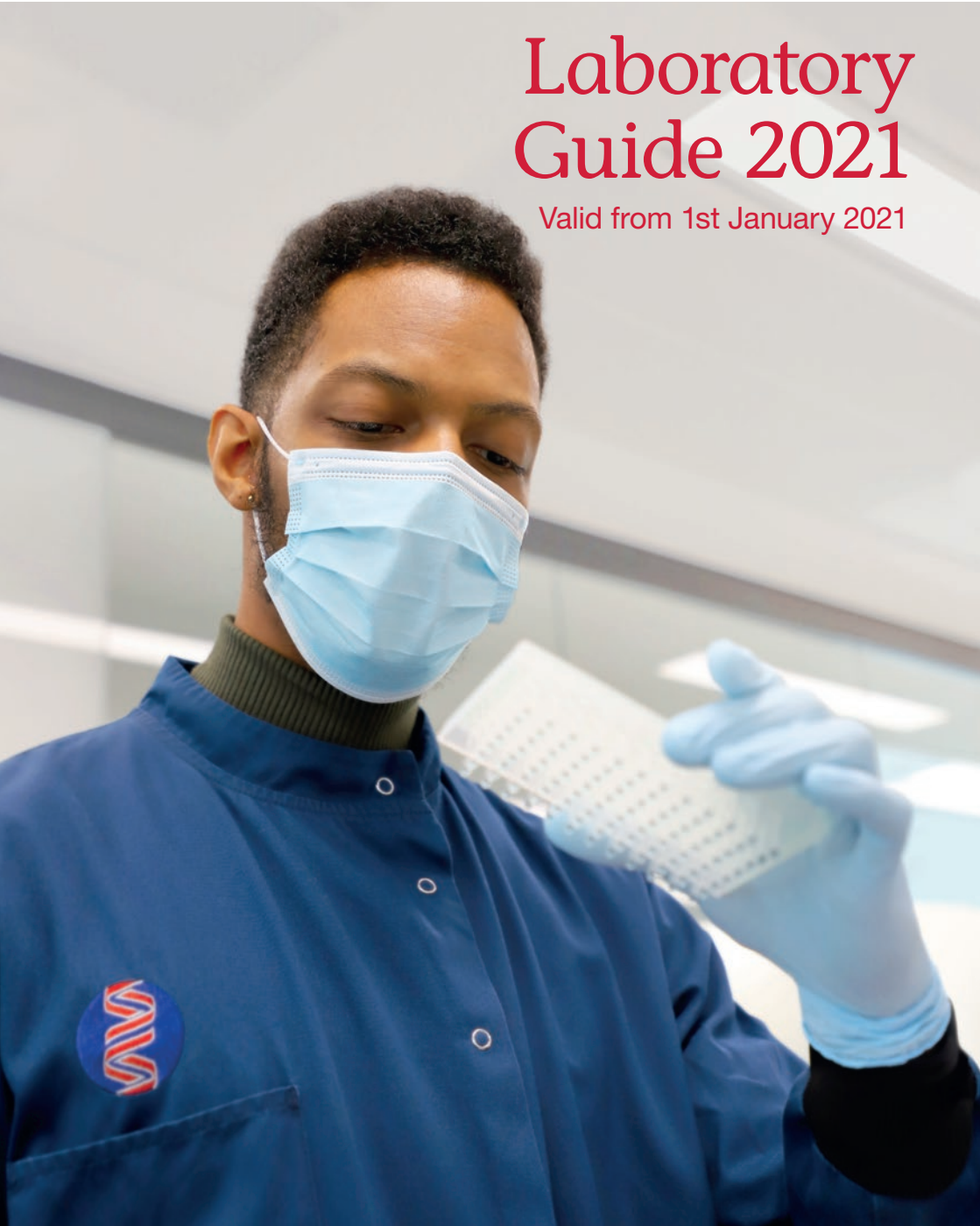
THE DOCTORS LABORATORY

# Laboratory Guide 2021

Valid from 1st January 2021



Cover: Daniel Odukoya, BMS, Laboratory Supervisor within Molecular Pathology handling PCR samples.

TAP4557/22-11-20/V3

# Laboratory Guide 2021

Valid from 1st January 2021

# 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

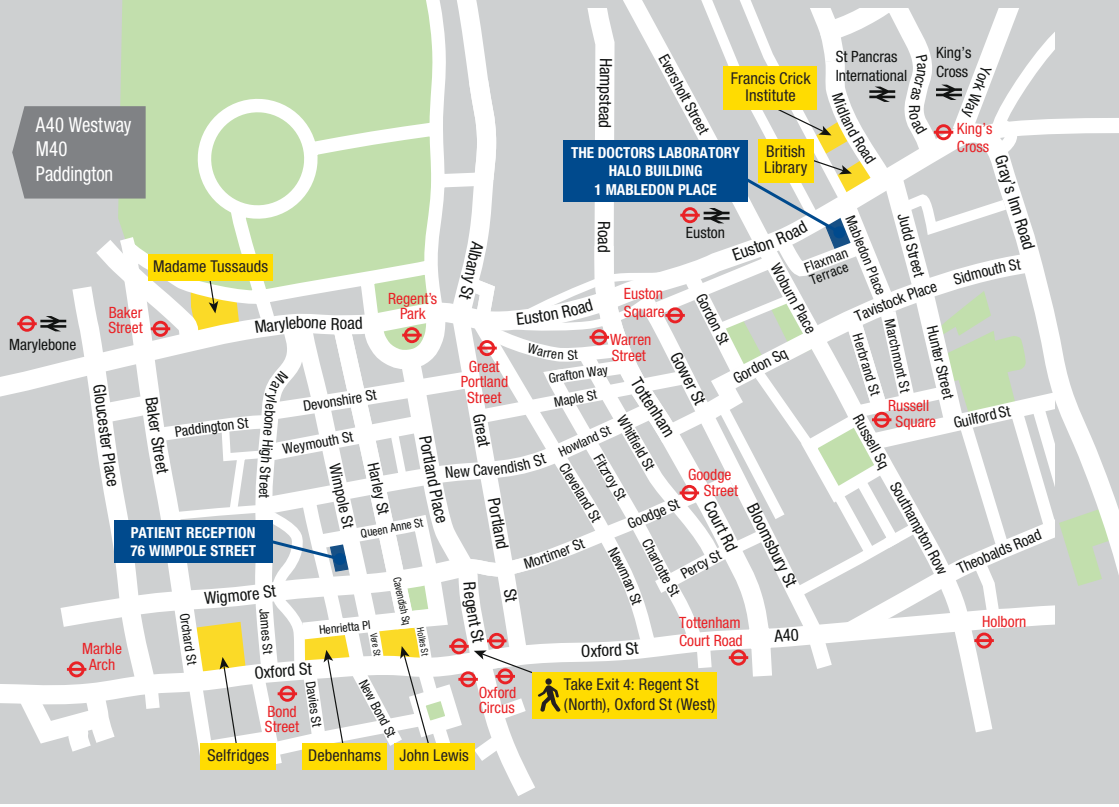
# Index of TDL Profiles

## TDL SCREENING PROFILES



## TDL SPECIFIC PROFILES

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




## THE DOCTORS LABORATORY

The Halo Building, 1 Mabledon Place, London WC1H 9AX
Tel: 020 7307 7373
E-mail: 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:

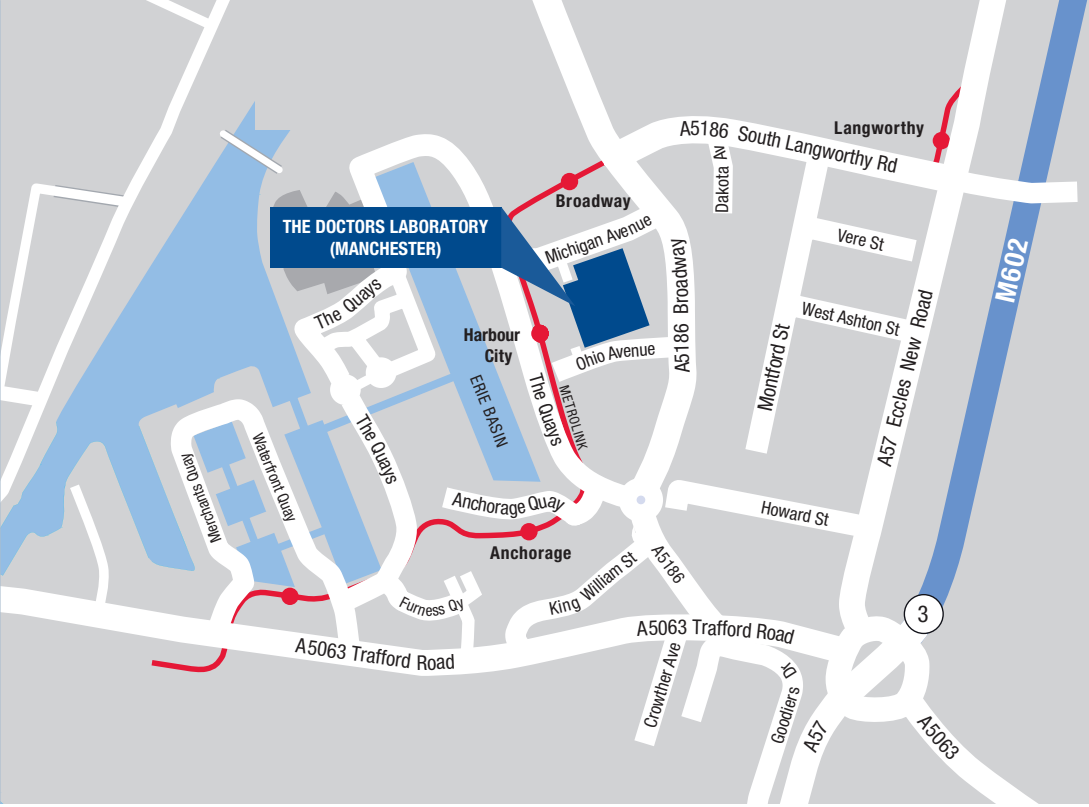
Patient Reception
76 Wimpole Street
London W1G 9RT

Or at any time at the main laboratory:

The Halo Building
1 Mabledon Place
London WC1H 9AX

**Samples are taken at Patient Reception only.**

**Samples cannot be taken at The Halo Building.**




## THE DOCTORS LABORATORY (MANCHESTER)

Michigan House, Michigan Avenue
Salford Quays, Manchester M50 2GY

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

Samples can be dropped at the laboratory at any time.

## COURIER COLLECTIONS

Tel: 0161 332 7187

# 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 throughout the night, weekends, or bank holidays.**

Outside routine hours the night team provide a wide range of analytical services but not all tests will be run as standard. No surcharges are made unless there are special arrangements for courier collections or investigations requiring additional resources.

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

## MANCHESTER LABORATORY TIMES: 24 HOURS

Samples may be dropped off at the laboratory at Michigan House, Michigan Avenue, Salford Quays, Manchester M50 2GY (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**

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.

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

Sample taking is undertaken by qualified staff for which a standard sample taking fee of £45.00 is charged to patients. A fee of £22.00 is charged to doctors and clinics for each patient. Sample taking services for extended tests (see page 129) and **Drugs of Abuse with Chain of Custody** are routinely available.



**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

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

Patient Reception sample taking services are not available in Manchester.

## 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 7307 7373** 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 60.

Semen analysis service is 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.

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# 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 (020 7307 7373) or by email to **addons@tdlpathology.com**. Please specify the test details to be added, together with Patient details, and LABORATORY NUMBER 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. 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, 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.

## TDL COLLECT: SPECIMEN COLLECTION SERVICES BY COURIER

TDL operates a dedicated and extensive specimen collection service. **TDL Collect** provides a 24 hour professional sample collection service on an urgent, regular or random basis. No charge is made for collections from practice within the M25. Sample collection from practices outside the M25 is by arrangement and may incur courier charges.

**TDL COLLECT Online Courier Booking** is a time saving new service at **www.tdlpathology.com/couriers**. For your practice's Username and Password please contact Chris Tanalega on 020 7025 7929 or chris.tanalega@tdlpathology.com.

Our couriers are trained to Health and Safety guidelines and maintain our commitment to customer service. For added convenience to doctors and their patients, we also collect samples directly from patients' homes, offices or hotels within the M25.

To arrange courier collection of samples from other areas in the UK please telephone **020 7307 7373**.

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

**TDL Collect cannot transport samples containing Hazard Group 4 pathogens, such as Ebola fever or Viral Haemorrhagic Fever.**

**TDL COLLECT UK NUMBER: 020 7307 7373**

## 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.



**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

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.

## 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®** NEW

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.
- From 1st January there will be 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.

**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

## DX SYSTEM NEW

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), e-mail (supplies@tdlpathology.com) or fax 020 7307 7340. There is a Supplies Order Form at the back of this Laboratory Guide.

## 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.



**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 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: RELAUNCHED FOR 2020/21

The TDL website at **www.tdlpathology.com** gives updated details of our tests – sample types, turnaround times and special instructions. A new 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.

## 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.

## TDL TESTGUIDE APP

Available for iOS and Android, the TDL TestGuide app covers the full content of the Handbook but is also continually updated with new or revised entries on a regular basis.

If you would like to register for the app, it is straight forward to install this from an appropriate app store for your own device. Email testguide@tdlpathology.com for more details.

User feedback for the TDL website, Pathology Handbook and TestGuide app 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 appearing on pages 207-213 of this Laboratory Guide shall apply to the services we provide to you, unless otherwise agreed.

# Helpful information

## 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.



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# Helpful information

## WHO TO ASK FOR HELP

24 hour Telephone (Main Switchboard/All Services): 020 7307 7373
Fax: 020 7307 7374

| | | |
|---|---|---|
| **CEO** | David Byrne | david.byrne@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 QMG** | Emer Nestor | emer.nestor@tdlpathology.com |
| **Patient/Doctor Invoices** | Aneta Kontrova | aneta.kontrova@tdlpathology.com |
| **Logistics/Couriers** | Steve Kettle | steve.kettle@tdlpathology.com |
| **Patient Reception/Home Visits** | Eileen Flatley | eileen.flatley@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)

| | | |
|---|---|---|
| **Haematology** | Billy Janda | billy.janda@tdlpathology.com |
| **Biochemistry** | Dayan Lloyd-Hennie | dayan.lloyd-hennie@tdlpathology.com |
| **Microbiology** | Alan Spratt | alan.spratt@tdlpathology.com |
| **Andrology** | Andrew Dawkins | andrew.dawkins@tdlpathology.com |
| **Cytology** | 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 |
| **Night Service** | Sanjiv Sawock | sanjiv.sawock@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


8169 8860 8059 8812 10199 8511

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



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# Quality assurance

Tumour Markers
Toxoplasma IgM Serology
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

**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

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# Quality assurance

Gastroenteritis Virus Panel
Hepatitis B Genotyping
Hepatitis B Drug Resistance Typing
Hepatitis B Viral Load
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
Ner General Autoimmune Serology
Anti-Phospholipid Antibodies (ACAB)
Nuclear and Related Antigens
IGRA TBQ
Instrinsic factor
Islet Cell Antibodies (Diabetic Marker)
Myositis Antibodies
Specific Microbial Antibodies
C1 Esterase Inhibitor
Functional and Complement
Syphilis (TPPA and RPR)
Lyme (IgG and IgM)
Hepatitis C
Hepatitis E (IgG and IgM)

**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)



**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

**RIQAS Scheme:**
Procalcitonin

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

**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

**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

**CYTOLOGY: EQA, TEQA for**
NHSCSP (EQA for Gynaecological Cytopathology)
NHSCSP (TEQA for PAP stain)
Hologic Imager stain (TEQA)

**NEQAS:**
Urine Cytology

**ANDROLOGY: UKNEQAS for**
Semen Analysis Scheme

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

## LINKS TO THE UKAS SCHEDULES OF ACCREDITATION

**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

**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

## 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.



**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

- 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).

# Quality assurance

## CONSULTANT ADVICE AND OPINION

Each department in the laboratory is consultant led. For doctors wanting clinical advice or professional support, TDL consultants can be contacted via the laboratory. Contact the consultant Haematologist to make arrangements for venesections for Haemochromatosis and polycythaemia.

## TDL MEDICAL CONSULTANTS

### GROUP MEDICAL DIRECTOR

Dr Rachael Liebmann
BSc Hons, MB, BCh, BAO, FRCPath
FAcadMed, SFFMLM

### HAEMATOLOGY/ BLOOD TRANFUSION

Professor Marie Scully
MRCP, FRCPath

Dr John Paul Westwood
MD FRCPath

Dr Adrian Bloor
FRCP, FRCPath

Dr Clare Barnes
MRCP, FRCPath

Dr Vivienne Andrews
FRCPath

### ANDROLOGY

Dr Sheryl Homa
PhD ARCS FIBMS

### BIOCHEMISTRY

Dr Paul Holloway
FRCPath

Dr Royce Vincent
FRCPath

Dr Denise Darby
MRCP, FRCPath

Professor Carel le Roux
FRCPath

Dr Gilbert Weiringa
PhD MRCPath

Dr Frank Geoghan
MRCPath

### MICROBIOLOGY

Dr Robin Smith
FRCPath

Dr Sophie Collier
FRCPath

### IMC

Dr Vanya Gant
FRCPath

Dr Michael Kidd
FRCPath

Dr Damien Mack
FRCPath

Dr Indran Balakrishnan
FRCPath

Dr Simon Warren
FRCPath

Dr Stephen Mepham
FRCPath

Dr Johnathan Lambourne
FRCPath

Dr Emanuel Wey
FRCPath

Dr Edward Kaczmarski
FRCPath

### FLOW CYTOMETRY

Dr Raj Gupta
MRCP, FRCP, FRCPath

Dr Geraldine Soosay
FRCPath

### IMMUNOLOGY

Dr Scott Pereira
FRCPath

Professor Suranjith Seneviratne
DPhil (Oxon) FRCP, FRCPath

### VIROLOGY

Dr Mark Atkins
FRCPath

### CYTOLOGY

Dr Mary Falzon
MRCS, LRCP, FRCPath

Dr Rachael Liebmann
BSc Hons, MB, BCh, BAO, FRCPath
FAcadMed, SFFMLM

Dr Geraldine Soosay
FRCPath

### GENETICS: MOLECULAR/ CYTOGENETICS

Professor Michael Patton
FRCP, FRCPCH
Consultant Clinical Geneticist



**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.

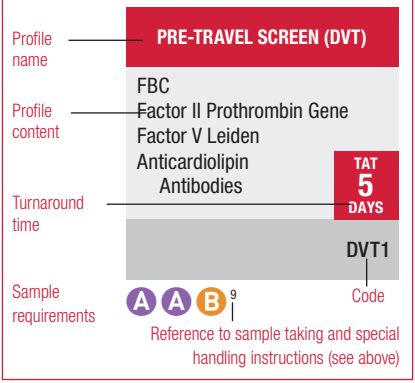
39 Urgent samples have a 3 day TAT if genotype is required for prenatal diagnosis or two weeks TAT if urgent for other factors.

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.

**Example of profile panel 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 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



**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 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
Macrolide Resistance Test (M.gen)*
Ureaplasma
Trichomonas vaginalis
Gardnerella vaginalis
Herpes Simplex I/II

**included if **POSITIVE M.gen** is detected from the same sample*

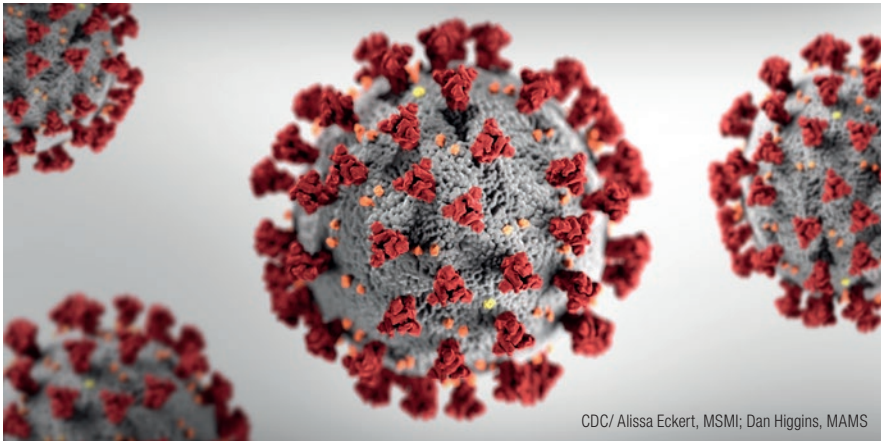
TAT 2 DAYS

DL12

FCRU OR PCR Swab OR TPV OR Semen

**Key: See page 21 for sample taking and special handling instructions.**

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



CDC/ Alissa Eckert, MSMI; Dan Higgins, MAMS

Illness caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has been termed 'COVID-19', derived from 'coronavirus disease 2019.' The number and range of tests for COVID-19 is developing apace, with emphasis on five key areas:

- Performance of assay: sensitivity, specificity, accuracy
- Speed of processing – how quickly can results be reported
- Sample type and ease of specimen collection
- Choice of tests: which test to use, and when?
- Price: dependant on method and manufacturer: PCR, Antigen and Antibody

**TDL will update on testing developments throughout the year – and are currently running:**

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

Results will be reported as Positive, Not Detected or Invalid if a test has failed. Always provide the patient's address and contact phone number.

**Test Code: NCOV**

| | |
|---|---|
| Sample Type | PCR swab (COVID-19 Royal Mail Priority Tracked 24 kits provided) |
| Performance | Sensitivity 98.0%, Specificity 100%, Accuracy 98.8% |
| Analysers | Hologic Panther SARS CoV-2 Assay UKAS Accredited<br>Hologic Panther Fusion UKAS Accredited<br>QuantStudio/Reagents Thermofisher UKAS Accredited |
| Turnaround time | Within 48 hours of receipt of sample |

**SEE PAGE 96 FOR DETAILS OF COVID TESTS**



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

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

## COVID-19 (SARS-CoV-2) Abbott IgG Antibody NEW

The Abbott IgG Antibody test is CE marked for venous samples, and one of the PHE selected antibody tests.

**Test Code: GCOV**

| | |
|---|---|
| Sample Type | SST/Serum B Venous (>14 days after onset of symptoms) |
| Performance | Specificity 99.1%, Sensitivity 97.5% |
| Analysers | Abbott Architect |
| Turnaround time | 24 hours from receipt of sample |

## COVID-19 (SARS-CoV-2) Roche Elecsys Anti-SARS-CoV-2 Total Antibody NEW

Roche Elecsys Anti-SARS-CoV-2 will additionally detect IgM antibodies, reporting both IgG and IgM as a TOTAL antibody result. The Roche Antibody test is CE marked for both **venous and capillary** samples, and is one of the PHE selected antibody tests.

**Test Code: TCOV**

| | |
|---|---|
| Sample Type | SST/Serum B Venous or 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 CE marked IVD for COVID Postal kits NEW

The kits include a Royal Mail Tracked 24 return label.

## Respiratory Viral Profile NEW

PCR swabs or Antibody samples can be sent to the laboratory:

- with your practice's courier collection
- delivered to Patient Reception at 76 Wimpole Street W1G 9RT
- delivered to the HALO Laboratory (WC1H 9AX)
- delivered to TDL Manchester (M50 2GY)
- posted to the Halo Laboratory, using next day delivery Royal Mail COVID Priority Tracked 24, provided with the swab pack.

**RESPIRATORY VIRAL RNA SCREEN BY PCR**

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

NEW 2021

TAT 48 HOURS

FLU4

PCR nasopharyngeal

TDL reports all Antibody and PCR activity daily to Public Health England (PHE). 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 21 for sample taking and special handling instructions.**

# 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 | 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 |
| **Apolipoprotein E (12 hours fasting)** | APOE | B (fasting) | 5 days |

**Key: See page 21 for sample taking and special handling instructions.**

# Biochemistry

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **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 | A A [9] | 4 weeks |
| **Cholinesterase (Blood)** | CHRC | H | 5 days |
| **Cholinesterase (Serum/Pseudo)** | CHPS | B | 4 hours |
| **Chromium (Blood)** | CHRO | A | 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.**

# Biochemistry

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **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 |
| **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 |
| **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 |
| **Diabetic Profile 2** | DIA2 | A G **RU** | 2 days |
| **Electrolytes** | ELEC | B | 4 hours |
| **Electrolytes (Urine)** | UELE | **CU** | 4 hours |
| **ELF/Enhanced Liver Fibrosis** | ELF | B | 5-7 days |

* Separate and freeze within 2 hours after collection.

**Key: See page 21 for sample taking and special handling instructions.**

# Biochemistry

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **Eosinophil Cationic Protein** | ECP | B | 7 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 |
| **Fructose – Plasma** | FRU | G [7] (Frozen) | 5 days |
| **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 129 |
| **Haemochromatosis**<br>– 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 |
| **HDL2 & HDL3 Fractions** | HDLF | B | 3 weeks |
| **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 |
| **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 |

* 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 |
|---|---|---|---|
| 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 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 129 |
| 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 |
| 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 |

# Biochemistry

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **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 |
| **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 |



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# Biochemistry

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **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 |

# 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 Status Profile
Haemochromatosis Mutation H63D/C282Y)

TAT 3 DAYS

IOP

A A B [9]

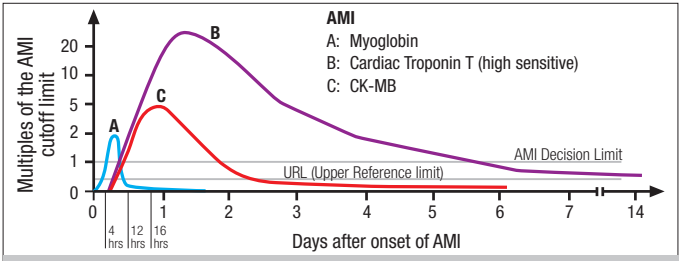
## MYELOMA SCREEN

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.



**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

## 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 21 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 |
| Antithrombin III | A111 | C (Frozen)[4,9,18] | 3 days |
| 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 |
| 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) | 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 gene
Factor II Prothrombin gene
MTHFR gene
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

Key: See page 21 for sample taking and special handling instructions.

# 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 + |
| **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 |
| **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 Culture** | HPCU | **J** | 3 weeks |
| **HVS** | HVS | **STM**[‡‡‡‡] | 2-4 days |
| **IUCD for Culture** | IUCD | Send Device | 11-12 days |
| **Legionella Urine Antigen** | LEGA | **RU** | 1 day |
| **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 |
| **Rapid Strep (incl. m/c/s)** | RAPS | **STM**** | 1-3 days** |

[#] 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 |
|---|---|---|---|
| **Schistosoma (Urine)** | USCH | **Mid-morning terminal urine** | 8 hours |
| **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 (Ear)** | EARS | **STM** | 2-4 days (Culture) 8-9 days (Fungal) – same swab |
| **Swab for Culture (Any Site)** (see page 44) | SWAB | **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 |
| **Urine for Microscopy and Culture** | UCEM | **MSU**†††† | 1-2 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

## 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.



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## 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.

**Key: See page 21 for sample taking and special handling instructions.**

# 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** | | |
| **Cervical Swab** | CERS | **Blue** Micro Swab |
| **Eye Swab** | EYES | **Blue** or **Orange** Micro Swab |
| **Ear Swab** | EARS | **Blue** or **Orange** Micro Swab |
| **Gonorrhoea** | GONN | **Black** Charcoal Swab |
| **High Vaginal Swab** | HVS | **Blue** Micro Swab |
| **Nasal Swab** | NASS | **Blue** or **Orange** Micro Swab |
| **Oral Swab** | ORSW | **Blue** Micro Swab |
| **Penile Swab** | PENS | **Orange** Micro Swab |
| **Rectal Swab** | RECG | **Blue** Micro Swab |
| **Skin Swab** | SKIS | **Blue** Micro Swab |
| **Throat Swab** | THRS | **Blue** Micro Swab |
| **Urethral Swab** | URES | **Orange** Micro Swab |
| **Vaginal Swab** | VAGS | **Blue** Micro Swab |
| **Vulval Swab** | VULV | **Blue** Micro Swab |
| **Wound Swab** | WOUS | **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 |
| **RAPID MRSA by PCR** | MRSA | **Blue** Micro Swab x 1 – state site |
| Note: This PCR methodology uses **Blue** Micro Swabs | 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, urogenital and throat.



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## 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).<br>• Non-dermatophyte culture will take 7 days rather than 3 weeks.<br>• Microscopy will be used to confirm significance of rare fungi that may cause infections.<br>• 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.<br>• 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<br>**Bacteria/Bacterial Toxins**<br>• Salmonella • Campylobacter<br>• Shigella • VTEC<br>**Parasites**<br>• Cryptosporidium • Giardia | All stool samples will be tested for UK Pathogens.<br>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.<br>Samples will be kept for 7 days after receipt to allow for additional testing if required. |

Key: See page 21 for sample taking and special handling instructions.

# 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<br>Alere Techlab EIA (Toxin) | Change to PCR and Elisa methods.<br>Two tier PCR & Toxin *c. diff* screening based on PHE guidance. Improved sensitivity and specificity for both targets tested.<br>Primary *c. diff* gene screening using Enteric Bio PCR.<br>Secondary sequential testing using Alere EIA to confirm Toxin. |

**GASTRO VIRUS DETECTION (INCLUDING ROTAVIRUS) SEE VIROLOGY**

**ENTERIC ORGANISM RAPID DETECTION SEE VIROLOGY**



**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

## 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 | 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 |



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# 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 |
|---|---|---|---|
| **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 |
| **Endometrial Biopsy Immune Profiling** | 23RF | **J** (Contact Referrals) | 2 weeks |
| **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 Free T3
TSH 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

TAT 3 DAYS

IMPO

A B B G

More Hormone Profiles are shown on page 50

## 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 21 for sample taking and special handling instructions.

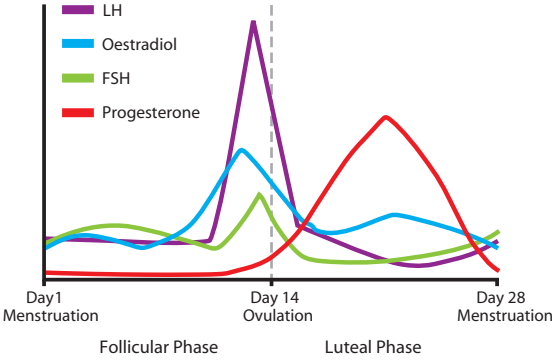
# Reproductive health

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

# 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.

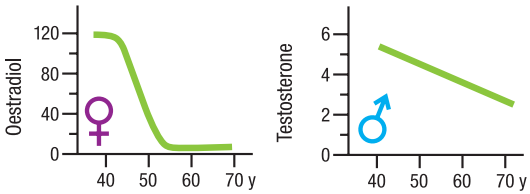
- Hormones
- Lifestyle/Environmental
- Ovarian Reserve
- Unexplained Infertility/Implantation failure
- Male Factors
- Infection
- Chromosomes/Genetics
- Polycystic Ovary Syndrome
- Recurrent/Spontaneous miscarriage

## 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 |
| Jewish Carrier **Profile** | Cystic Fibrosis Screen |
| Inherited disorders (specific) | Tay Sachs |
| | Jewish Carrier **Profile** |
| | 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 60. |

# 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, 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.**

## SEMEN

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **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 Parameters** | SPOD | **Semen**[1] | 1 day |
| **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

† 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 1 million/ml.

- **Sperm COMET® Assay [CMET]**

  When sperm counts are limited, DNA fragmentation can be effectively assessed using the Comet® assay as only ~5,000 sperm are required. The Comet® assay uses electrophoresis to determine abnormal sperm, and can measure both single and double strand breaks. Unlike the SCSA® test, the comet assay may be subject to inter-observer variability and may be less statistically robust as it measures low counts of 50 to 100 sperm cells from each sample.

### 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.



**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

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 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

*Homa ST, Vessey W, Perez-Miranda A, Riyait T, Agarwal A (2015). Reactive oxygen species (ROS) in human semen: determination of a reference range. J Assist Reprod Genet 32(5):757-64.*

*Vessey W, Perez-Miranda A, Macfarquhar R, Agarwal A, Homa S. (2014). Reactive oxygen species (ROS) in human semen: validation and qualification of a chemiluminescence assay. Fertil Steril. 102:1576-1583.*

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.

**Key: See page 21 for sample taking and special handling instructions.**

# 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/Semen** | 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 69 |
| **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** | 2-3 days |
| **HPV (Individual low & high risk DNA subtypes)** | HP20 | **TPV/PCR** | 2-3 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 |
| **Rapid Xpert HIV-1 RNA Qualitative** – Early Detection from 10 days | LHIV | A (Vacutainer only) | 4 hours |

* 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 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** | 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 |
| **Swab for Culture (Any Site)** | SWAB | **STM**† | 2-4 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 |

## 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



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

### 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.

**Key: See page 21 for sample taking and special handling instructions.**

### 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 21 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<br>Cervix/Vagina<br>Cervix/Vagina |
| **Gonorrhoea GC** | Bacterial | 2–7 days, up to 1 month | Urine<br>Cervix/Vagina<br>Cervix/Vagina<br>Cervix/Vagina |
| **CT/GC Combined** | Bacterial | 1–3 weeks, up to 6 weeks | Urine<br>Cervix/Vagina<br>Cervix/Vagina<br>Rectum<br>Throat |
| **Mycoplasma genitalium** | Bacterial | Symptoms develop at 1–3 weeks | Urine<br>GU Site<br>Cervix/Vagina |
| **Ureaplasma urealyticum** | Bacterial | Symptoms develop at 1–3 weeks | Urine<br>GU Site<br>Cervix/Vagina |
| **Trichomonas vaginalis** | Parasitic | 4–28 days, many patients are asymptomatic carriers | Urine<br>GU Site<br>Cervix/Vagina |
| **Gardnerella vaginalis** | Bacterial | Imbalance of normal flora | Urine<br>GU Site<br>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<br>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 |



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# 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 |
| **HPV DNA/mRNA** | HPVT | **Thin Prep Vial** | 3 days |
| **HPV Typed DNA** | HP20 | **PCR Swab** | 2-3 days |
| **HPV Typed DNA** | HP20 | **Cells / Papilloma** | 2-3 days |
| **HPV Typed DNA** | HPVT | **Thin Prep Vial** | 3 days |
| **HPV Typed DNA** | HP20 | **PCR Swab** | 2-3 days |
| **HPV Typed DNA** | HP20 | **Cells / Papilloma** | 2-3 days |
| **Syphilis/Herpes Lesion Profile** | STD9 | **PCR Swab** | 7 days |

**Key: See page 21 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<br>IgM 5–35 days after exposure, after which test IgG | Blood<br>Blood |
| **HIV** | Viral | Usually 10–90 days, but up to 180 days | Blood<br>Blood |
| **Hep B** | Viral | Usually 45–180 days, average of 60–90 days | Blood<br>Blood |
| **Hep C Ab** | Viral | Usually 9–180 days, average of 45–65 days | Blood<br>Blood |

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



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# 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**<br>**Gonorrhoea**<br>**Mycoplasma genitalium**<br>**Macrolide Resistance Test (M.gen)***<br>**Ureaplasma genitalium**<br>**Trichomonas vaginalis**<br>**Gardnerella vaginalis**<br>**Herpes Simplex I/II**<br>**included if POSITIVE M.gen is detected from the same sample* | PP12<br><br>PP12<br><br>PP12 | **Thin Prep Vial**<br>or<br>**First Catch Urine**<br>or<br>**PCR Swab** | 2 days<br><br>2 days<br><br>2 days |
| **HIV 1&2 RNA**<br>**Hepatitis B (HBV DNA)**<br>**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



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# 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
Macrolide Resistance Test (Mgen)*

**All tests can be requested individually**
**included if POSITIVE M.gen is detected from the same sample.*

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
Macrolide Resistance Test (M.gen)*
Ureaplasma
Trichomonas vaginalis
Gardnerella vaginalis
Herpes Simplex I/II

**All tests can be requested individually**
**included if POSITIVE M.gen is detected from the same sample.*

TAT 2 DAYS

PP12

FCRU OR PCR Swab OR TPV OR Semen

# 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
Macrolide Resistance Test (M.gen)*
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 |
| **Antinuclear Antibodies (titre & pattern)** | ANAB | B | 2 days |
| **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 |
| **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 88 | BORR | B [9,14] | 2 days |
| **Borrelia Antibodies (Lyme Disease) IgM** – see page 88 | BORM | B | 2 days |
| **Borrelia Confirmation (Immunoblot)** – see page 88 | 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 |
| **Campylobacter Jejuni Antibodies** | CJAB | B | 5 days |
| **Candida Antibodies** | CANA | B | 5 days |
| **Candida Antigen** | CCAG | B | 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 |
| Cotinine (Urine) | COTT | RU | 2 days |
| Cryoglobulins | CRYO | J [6] | 10 days |
| Diamine Oxidase Activity | DIAM | B | 2 weeks |
| 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 (Faecal) | ELAS | RF | 5 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 |
| Faecal Elastase | ELAS | RF | 5 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 |
| H. pylori Antigen (Stool) | HBAG | RF | 3 days |
| Haemophilus B Influenzae Antibodies | HINF | B | 7 days |
| Histamine (Blood) | HITT | A (Frozen plasma) | 5 days |
| Histamine (Urine) | HITU | RU | 5 days |
| Histamine Releasing Urticaria Test | CURT | B | 10-14 days |
| Histone Antibodies | HISA | B | 5 days |
| Histoplasmosis | HISP | B | 10 days |



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# Immunology

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| 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 Antibody | LIST | B | 1 week |
| Liver Immunoblot | LIVI | B | 5 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 | 2 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 | 2 days |
| Neuronal Antibody (Hu, Ri, Yo, Cv2, Ma2) | NEUR | B | 10 days |
| NMDA Receptor Antibodies | NMDA | B | 3 weeks |
| 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 |

Key: See page 21 for sample taking and special handling instructions.

# Immunology

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| Pemphigus/Pemphigoid Autoantibodies | SKAB | B | 2 days |
| Phospholipid Antibodies | PLIP | B | 5 days |
| Pituitary Antibodies | PITU | B[4] | 1 month |
| Pneumococcal Antibodies – Serotype Specific | PASS | B | 5 weeks |
| Pneumococcal Antibody Screen | PNEU | B | 7 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 |
| RPR (VDRL) | RPR | B | 2 days |
| Saccharomyces Cerevisiae Antibodies | ASCA | B | 2 weeks |
| Salivary Duct Antibodies | SAB | B | 12 days |
| Scleroderma Immunoblot | SCLI | B | 5 days |
| Sjogren's Syndrome | RH7 | B | 2 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 |
| 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 |
| Thyroid Peroxidase Antibodies/Anti TPO | TPEX | B | 1 day |
| Tissue Transglutaminase IgA (Coeliac)** | TAA | B | 2 days |
| Tissue Transglutaminase IgG | TAAG | B | 5 days |
| Torch Screen | TORC | B | 2 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 |



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# Immunology

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **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 |
| **Tularaemia Antibodies** | TULA | B [14] | 5 days |
| **TSH-Receptor Antibodies** | TSI | B | 4 days |
| **Urinary Methyl Histamine** | UHIT | **RU** (Frozen) | 2 weeks |
| **Urticaria Test (Histamine Releasing)** | CURT | B | 10-14 days |
| **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** | ZKAB | B | 5 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 (<0.1U/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.

## HLA DQ2/DQ8

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **Coeliac Disease Profile 2** | GSA2 | A B | 10 days |
| **Coeliac Disease – HLA DQ2/DQ8 Genotype** | Q2Q8 | A[9] | 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 Abs IgA
Gliadin Abs deamidated IgG
Tissue Transglutaminase IgA
HLA DQ2/DQ8
Total IgA

TAT 10 DAYS

GLUT

A B B

To determine the new Coeliac Pathway, a TDL audit of more than 12,000 requests for coeliac testing was carried out and results assessed within UKAS current guidelines. The purpose of these new guidelines is to reduce the risk of missing IgA deficient patients. The new pathway covers for this by adding a total IgA to all low **Tissue Transglutaminase (TGG)** IgA results to check for an IgA deficiency. If an IgA deficiency is identified, a reflex deamidated gliadin IgG will be carried out to determine whether the patient is likely to have coeliac disease with an IgG antibody.

The changes are as follows:

1 **Initial TTG IgA samples are received and tested**
2 **If TTG IgA is LOW <0.1 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.



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# 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 |
|---|---|---|---|
| 0.1 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 |
| <0.1 | >/= 0.1 | N/A | Coeliac disease unlikely (please note that if the patient has no dietary gluten, results may appear false negative) |
| <0.1 | <0.1 | >/=10 | Consistent with coeliac disease in a patient with selective IgA deficiency |
| <0.1 | <0.1 | <7 | Coeliac disease unlikely (please note that if the patient has no dietary gluten, results may appear false negative) |
| <0.1 | <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 77 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.**

# 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 (Schistosome) Antigen** | SHAG | B | 15 days |
| **Bilharzia (Urine)** | USCH | **RU**[14] | 2 days |
| **Borrelia Antibodies (Lyme Disease) IgG, IgM** | BORR | B[9,14] | 2 days |
| **Borrelia Antibodies (Lyme Disease) IgM** | BORM | B | 2 days |
| **Borrelia Confirmation (Immunoblot)** | 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 |
| **Schistosome Antigen** | SHAG | B | 15 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 | 5 days |
| **Zika RNA by PCR in Semen** | ZIKS | **Semen** | 5 days |
| **Zika RT PCR** – Window of detection from 1-14 days from onset of symptoms | ZIKU | **RU** | 5-7 days |
| **Zika RT PCR** – Window of detection from 1-7 days from onset of symptoms | ZIKA | B | 5-7 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.**

# 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 s Ag
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

## 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 | 7 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

Key: See page 21 for sample taking and special handling instructions.

# 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 89 | 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 Genotype** | CGEN | A | 5 days |
| **Hepatitis C Quantification (Viral Load)** – see page 89 | 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 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.

## 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**

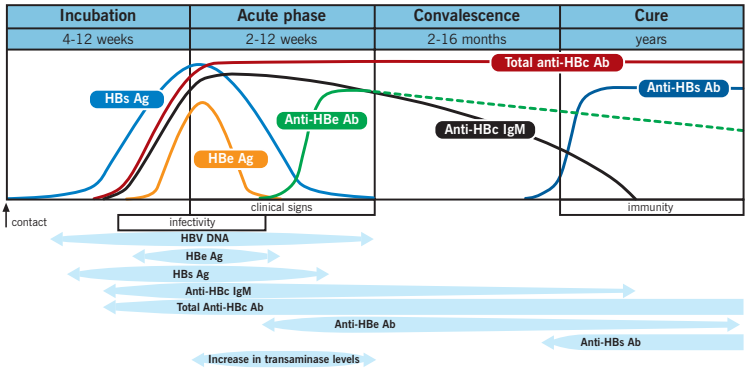
**Proceed to Full Hep B Profile (undertaken by TDL as routine reflex testing to identify active information)**

**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 |



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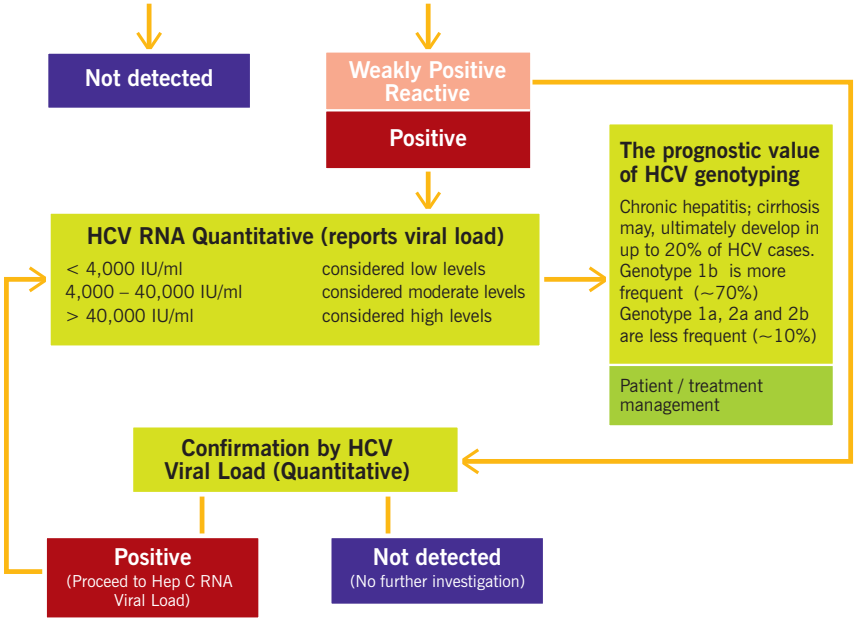
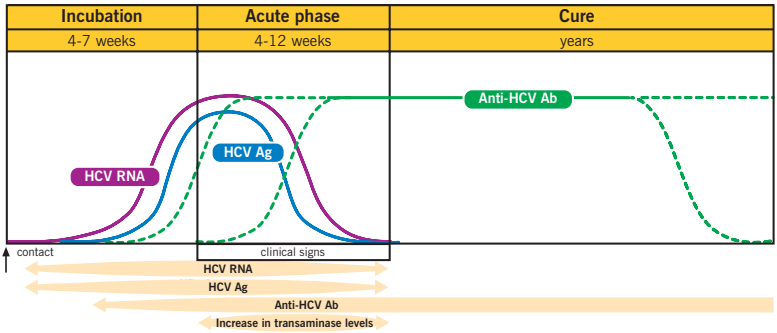
## Hepatitis C Antibodies

### 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 21 for sample taking and special handling instructions.

# Virology

## HIV TESTING

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **HIV Screening: HIV1& 2 Abs/p24 Ag (4th Gen)** | HDUO | B | 4 hours |
| **HIV Screening: HIV1& 2 Abs, p24 (5th Gen)** | HIV5 | B | 4 hours |
| **HIV Confirmation of Positive Screens (Using 3 methodologies)** | HIVC | B | 1 day |
| **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/HBV/HCV Screen (HIV post exposure at 10 days)** | STDX | A 10mls or 2x4mls (Vacutainer only) | 3 days |
| **HTLV 1& 2 Abs. (Human T Lymphotropic Virus Type I-II)** | HTLV | B | 8 hours |
| **HTLV by PCR** | HTLP | A Whole blood | 21 days |
| **HIV 1 Proviral DNA** | HIVP | A Whole blood | 7 days |

## TDL TINY™ SELF-COLLECTION HIV TESTS

(please refer to page 146 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 |
| **5th Generation HIV1& 2 Abs/p24 Ag (45 days post-contact)*** | THV5 | B Tiny™ | 4 hours |

*Reactive 4th & 5th Gen HIV Results require confirmation with a follow up venous blood sample.

## HIV POSITIVE PATIENT MONITORING

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **HIV-1 RNA Viral Load by PCR** | HIV1 | A A (2x6ml whole blood) | 3 days |
| **HIV-2 RNA by PCR** | HIV2 | A | 21 days |
| **HIV Rapid RNA HIV-1 QUANTITATIVE** | RHIV | A (Vacutainer only) | 4 hours |
| **HIV Therapeutic Drug Monitoring** | TDM | J | 21 days |
| **CD3/CD4/CD8** | LYSS | A [10] | 1 day |

## HIV-1 GENOTYPIC RESISTANCE TESTING

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **HIV-1 Genotypic Resistance (RT & Protease)** | HIVD | A A (2x6ml whole blood) | 21 days |
| **HIV-1 Genotypic Resistance (Integrase)** | INTE | A A (2x6ml whole blood) | 21 days |
| **HIV-1 Tropism** | TRPM | A A (2x6ml 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)

## HIV (5TH GENERATION) Ag-Ab SCREEN
(Bio-Rad BioPlex 2200)

HIV-1 Abs
HIV-2 Abs
HIV-1 p24 Antigen

TAT 4 HOURS

HIV5

B

# 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 |
| | CMV DNA (by PCR) | CMVP | A | 5 days |
| | CMV DNA by PCR (Semen) | SCVM | Semen | 7 days |
| | CMV DNA by PCR (Urine) | CMVU | RU | 5 days |
| | CMV Resistance | CMVR | A A (2 x 6mls) | 21 days |
| NEW | COVID-19 (SARS-CoV-2) Abbott IgG Antibody | GCOV | SST / Serum B * (Venous) | 24 hours |
| NEW | COVID-19 (SARS-CoV-2) RNA by PCR | NCOV | PCR Swab (nasal/ pharyngeal) | 48 hours |
| NEW | COVID-19 (SARS-CoV-2) Roche Elecsys Anti-SARS-CoV-2 Total Antibody | TCOV | SST / Serum B ** (Venous and Capillary) | 24 hours |
| | 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) Urine | CMVU | RU | 5 days |
| | Cytomegalovirus Avidity | CMAV | B | 10 days |
| | Cytomegalovirus DNA (PCR) | CMVP | A | 5 days |
| | Cytomegalovirus IgM | CMVM | B | 4 hours |
| | Dengue Fever PCR | DPCR | A or B [9,14] | 2 weeks |
| | Epstein-Barr Virus Antibodies IgG/IgM | EBVA | 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 / 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 |

* 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 |
|---|---|---|---|---|
| | **Measles Antibodies (IgM)** | MEAM | B[9] | 2 days |
| | **Measles PCR** | MEAP | **Buccal swab** | 48 hours |
| | **MERS Coronavirus Test** | MERS | **J** | 1 day |
| | **Mumps Antibodies (IgM)** | MUMM | B | 1 day |
| | **Mycoplasma pneumoniae IgM and IgG** | MYCO | B | 2 days |
| | **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 DNA by PCR** | PCRP | A | 2 weeks |
| | **Parvovirus IgG Antibodies** | PARG | B | 2 days |
| | **Parvovirus IgG/IgM Abs** | PARP | B | 2 days |
| | **Pneumonia (Atypical) Screen** | APS | B | 2 days |
| NEW | **Respiratory Viral RNA Screen by PCR** | FLU4 | **PCR** nasopharyngeal | 48 hours |
| | **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 |
| NEW | **SARS-CoV-2 (COVID-19) Abbott IgG Antibody** | GCOV | **SST/Serum** B * (Venous) | 24 hours |
| NEW | **SARS-CoV-2 (COVID-19) RNA by PCR** | NCOV | **PCR Swab** (nasal/ pharyngeal) | 48 hours |
| NEW | **SARS-Cov-2 (COVID-19) Roche Elecsys Anti-SARS-CoV-2 Total Antibody** | TCOV | **SST/Serum** B ** (Venous and Capillary) | 24 hours |
| | **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 | 5 days |
| | **Zika RNA by PCR in Semen** | ZIKS | **Semen** | 5 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

### RESPIRATORY VIRAL RNA SCREEN BY PCR

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

NEW 2021

TAT 48 HOURS

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 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 sequencing across 14 genes + deletions/duplications | 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 | 7 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

Key: See page 21 for sample taking and special handling instructions.

# 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 |

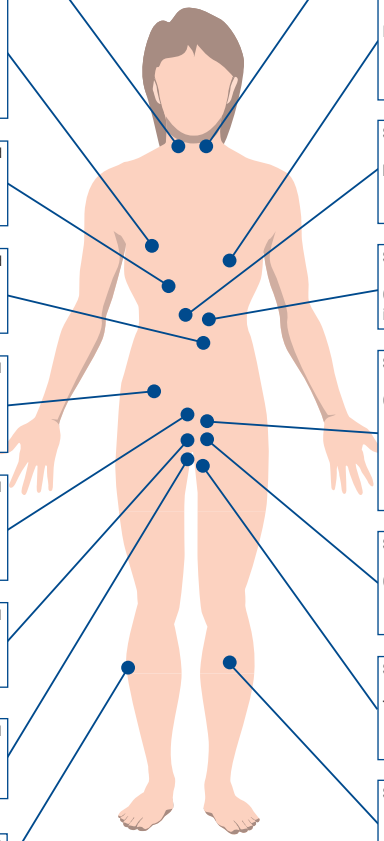
| Site | Tumour marker | Sample type | Turnaround time |
|---|---|---|---|
| **Carcinoid** | 5-HIAA | 24 hour urine/ acidified | 5 days |

| 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.**

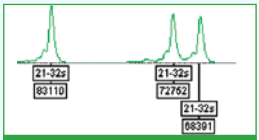
# TDL Genetics

**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, and turnaround times 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 21 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.

## 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

| KEY PERSONNEL | | | |
|---|---|---|---|
| **Consultant Clinical Geneticist** | Prof. Michael Patton | 020 7307 7409 | michael.patton@tdlpathology.com |
| **Consultant Clinical Scientist** | Elaine Holgado | 020 7307 7409 | elaine.holgado@tdlpathology.com |
| **Head of Cytogenetics** | Rebecca Watts | 020 7460 4787 | rebecca.watts@hslpathology.com |
| **Senior Cytogeneticist** | Kath Masters | 020 7307 7409 | kath.masters@tdlpathology.com |
| **Cytogenetics Operations Manager** | Emma Wilcock | 020 7307 7409 | emma.wilcock@tdlpathology.com |
| **Postnatal Lab Manager** | Allison Daffern | 020 7307 7409 | allison.daffern@tdlpathology.com |
| **Director of Genetics & Molecular Pathology** | Dr Lisa Levett | 020 7307 7409 | lisa.levett@tdlpathology.com |
| **Head of Genetics & Molecular Pathology** | Dr Stuart Liddle | 020 7307 7409 | stuart.liddle@tdlpathology.com |
| **Operations Manager** | Andrew Levett | 020 3908 1282 | andrew.levett@tdlpathology.com |
| **Molecular Cytogenetics Manager** | Alessandra Callegari | 020 7307 7409 | alessandra.callegari@tdlpathology.com |



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

**Key: See page 21 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)** – 8 mutations screened | GENE | (A) [9,11] | 8 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 sequencing across 6 genes plus BCM genes | GENE | (A)(A) [9] | 4 weeks |
| **Aicardi-Goutières Syndrome NGS Panel** – full sequencing across 7 genes | GENE | (A)(A) [9] | 6 weeks |
| **Alagille Syndrome NGS Panel** – full sequencing JAG1 + NOTCH2 genes | GENE | (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 | (A) [9] | 4 weeks |
| **Alpha-1 Antitrypsin Genotype** – PI*M, PI*S, PI*Z | GENE | (A) [9] | 4 weeks |
| **Alport Syndrome NGS Panel** – full sequencing COL4A3 + COL4A4 + COL4A5 + MYH9 genes | GENE | (A)(A) [9] | 6 weeks |
| **Amelogenesis/Dentinogenesis Imperfecta NGS Panel** – full sequencing across 31 genes | GENE | (A)(A) [9] | 6 weeks |
| **AML/ALL Molecular MRD** – NPM1, PML-RARA, CBFB-MYH11, RUNX1-RUNX1T1, ETV6-RUNX1 – ***Contact Lab for further information*** | GENE | **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 sequencing across 43 genes | GENE | (A)(A) [9] | 6 weeks |
| **Androgen Insensitivity** – AR gene sequencing | GENE | (A) [9] | 8 weeks |
| **Aneurysm/Connective Tissue Disorders/Ehlers-Danlos Syndrome NGS Panel** – full sequencing across 46 genes + deletions/duplications | GENE | (A)(A) [9] | 4 weeks |
| **Angelman Syndrome (Primary Screen)** – methylation PCR | PWAM | (A) [9] | 5 days |
| **Angelman/Rett Syndromes NGS Panel** – full sequencing across 30 genes | GENE | (A)(A) [9] | 6 weeks |
| **Aniridia, Isolated** – PAX6 gene sequencing + deletions/duplications | GENE | (A) [9] | 8 weeks |

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

**Key: See page 21 for sample taking and special handling instructions.**

# TDL Genetics

| | TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|---|
| | **Anophthalmia/Microphthalmia NGS Panel** – full sequencing across 39 genes | GENE | A A [9] | 6 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 sequencing across 30 genes | GENE | A A [9] | 6 weeks |
| | **Apert Syndrome** – 2 common FGFR2 mutations | GENE | A [9] | 4 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 across 46 genes + deletions/duplications | GENE | A A [9] | 4 weeks |
| | **Ashkenazi Breast Cancer Screen** – 3 common mutations | GENE | Requires patient informed consent A [9,11] | 4 weeks |
| | **Ashkenazi Jewish Carrier Screen** – see Pan-ethnic/Jewish Carrier Profile | ASHJ | A [9] | 4 weeks |
| | **Ataxia/Episodic Ataxia Disorders NGS Panel** – full sequencing across 152 genes | GENE | A A [9] | 6 weeks |
| | **Autoinflammation/Periodic Fever NGS Panel** – full sequencing across 36 genes | GENE | A A [9] | 6 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 sequencing across 24 genes | GENE | A A [9] | 6 weeks |
| | **Batten Disease (Neuronal Ceroid Lipofuscinosis) NGS Panel** – full sequencing across 14 genes | GENE | A A [9] | 6 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 | DND | A [9] | 10 days |
| | **Beckwith-Wiedemann Syndrome** – methylation studies on 11p15 imprinting domains KvDMR + H19 | GENE | A [9] | 4 weeks |
| | **Behcet's Disease** – HLA Tissue Typing B*51 | B51 | A [9] | 10 days |
| | **Beta Thalassaemia** – beta-globin gene sequencing | GENE | A [9] | 4 weeks |
| NEW | **Bleeding and platelet disorders NGS Panel (known familial mutations)** – Contact lab | GENE | A A | 6 weeks |
| NEW | **Bleeding and platelet disorders NGS Panel (unknown familial mutations)** – Contact lab | GENE | A A | 12 weeks |
| | **Blood PCR for Chromosome 21** | BPCR | A | 5 days |
| | **Bloom Syndrome** – BLM gene sequencing | GENE | A [9] | 4 weeks |
| | **BOBs rapid chromosome analysis** – see profiles | | | |
| | **BRAF V600E mutation by PCR for Hairy Cell Leukaemia** | GENE | **Bone Marrow/** A | 5 days |

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# TDL Genetics

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **Breast Cancer Ashkenazi Screen** – 3 common mutations | GENE | Requires patient informed consent (A) [9,11] | 4 weeks |
| **Breast Cancer** – BRCA1 + BRCA2 only gene sequencing + deletions/duplications | GENE | (A) | 4 weeks |
| **Breast Cancer NGS Panel** – full sequencing across 14 genes + deletions/duplications | GENE | Requires patient informed consent (A)(A) [9,11] | 4 weeks |
| **Brugada Syndrome/Long-QT NGS Panel** – full sequencing across 34 genes | GENE | (A)(A) [9] | 4 weeks |
| **C-KIT D816V mutation by PCR for Mastocytosis** | GENE | **Bone Marrow**/(A) | 5 days |
| **CADASIL** – NOTCH3 gene sequencing | GENE | (A) [9] | 6 weeks |
| **CAKUT (Congenital Anomalies of Kidney & Urinary Tract) NGS Panel** – full sequencing across 38 genes | GENE | (A)(A) [9] | 6 weeks |
| **Calreticulin** – CALR exon 9 mutation screen | CALR | (A) [9] | 2 weeks |
| **Cancer, Comprehensive NGS Panel** – full sequencing across 123 genes + deletions/duplications | GENE | Requires patient informed consent (A)(A) [9,11] | 4 weeks |
| **Carbohydrate Metabolism Deficiency NGS Panel** – full sequencing across 47 genes + deletions/duplications + mitochondrial DNA | GENE | (A)(A) [9] | 4 weeks |
| **Cardio-Facio-Cutaneous/Noonan/LEOPARD/ Costello Syndromes NGS Panel** – full sequencing across 20 genes | GENE | (A)(A) [9] | 6 weeks |
| **Cardiomyopathy, Arrhythmogenic Right Ventricular NGS Panel** – sequencing across 34 genes + deletions/duplications | GENE | (A)(A) [9] | 4 weeks |
| **Cardiomyopathy, Comprehensive NGS Panel** – full sequencing across 111 genes + deletions/duplications | GENE | (A)(A) [9] | 4 weeks |
| **Cardiomyopathy, Dilated NGS Panel** – full sequencing across 78 genes + deletions/duplications | GENE | (A)(A) [9] | 4 weeks |
| **Cardiomyopathy, Hypertrophic NGS Panel** – full sequencing across 86 genes + deletions/duplications | GENE | (A)(A) [9] | 4 weeks |
| **Carrier Screen (Pan-ethnic or Jewish)** – see profiles | GENE | (A) [9] | 4 weeks |
| **Charcot-Marie-Tooth Syndrome NGS Panel** – full sequencing across 59 genes | GENE | (A)(A) [9] | 6 weeks |
| **Charcot-Marie-Tooth Type 1A** – PMP22 duplications | GENE | (A) [9] | 4 weeks |
| **CHARGE Syndrome** – CHD7 gene sequencing | GENE | (A) [9] | 8 weeks |
| **Chediak-Higashi Syndrome** – LYST gene sequencing | GENE | (A) [9] | 4 weeks |
| **Cholestasis, Intrahepatic NGS Panel** – full sequencing across 15 genes | GENE | (A)(A) [9] | 6 weeks |
| **Chromosome Analysis (Amniocentesis)** – culture only | ACUL | **AF** [9] | 10-15 days |
| **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 |

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# TDL Genetics

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **Chromosome Analysis (Blood)** | KARY | H [9] | 8-18 days |
| **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)** – BOBs rapid aneuploidy diagnosis for all chromosomes (5 days) + culture (25 days) | PBK | **Placental Sample** [1,9] | 5-25 days |
| **Chromosome Analysis (Products of Conception)** – reflex to BOBs testing if culture fails to grow | PROC | **Placental Sample** [1,9] | 20-25 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 | A A [9] | 5 weeks |
| **Coeliac Disease** – HLA DQ2/DQ8 Genotype | Q2Q8 | A [9] | 10 days |
| **Colorectal Cancer NGS Panel** – full sequencing across 18 genes + 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 Central Hypoventilation Syndrome (CCHS)** – PHOX2B polyalanine repeat analysis | GENE | A [9] | 4 weeks |
| **Congenital Central Hypoventilation Syndrome (CCHS)** – full sequencing PHO X2B gene | GENE | A [9] | 4 weeks |
| **Congenital Muscular Dystrophy NGS Panel** – full sequencing across 27 genes | GENE | A A [9] | 6 weeks |
| **Connective Tissue Disorders/Ehlers-Danlos Syndrome/Aneurysm NGS Panel** – full sequencing across 46 genes + deletions/duplications | GENE | A A [9] | 5 weeks |
| **Connexin-26 Associated Deafness** – full sequencing GJB2 gene (+ GJB6 common deletion) | GENE | A [9] | 8 weeks |
| **Cornelia de Lange Syndrome NGS Panel** – full sequencing across 8 genes | GENE | A A [9] | 6 weeks |
| **Costello/Noonan/LEOPARD/Cardio-Facio-Cutaneous Syndromes NGS Panel** – full sequencing across 20 genes | GENE | A A [9] | 6 weeks |
| **Craniosynostosis and related disorders NGS Panel** | GENE | 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** [9] | 2-15 days |

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# TDL Genetics

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **CVSBOBs** – rapid BOBs aneuploidy diagnosis for all chromosomes (3-5 days) + culture (10-15 days) – see profiles | 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 days |
| **Deafness NGS Panel** – full sequencing across 179 genes | GENE | A A [9] | 6 weeks |
| **Deafness, Non-Syndromic** – GJB2 sequencing + GJB6 common deletion | GENE | A [9] | 8 weeks |
| **Dentinogenesis/Amelogenesis Imperfecta NGS Panel** – full sequencing across 31 genes | GENE | A A [9] | 6 weeks |
| **Diabetes Mellitus, MODY NGS Panel** – full sequencing across 13 genes | GENE | A A [9] | 6 weeks |
| **Diabetes Mellitus, Neonatal NGS Panel** – full sequencing across 26 genes | GENE | A A [9] | 6 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)** – 5 mutations | GENE | A [9] | 1-2 weeks |
| **Dilated Cardiomyopathy NGS Panel** – full sequencing across 78 genes + deletions/duplications | GENE | A A [9] | 4 weeks |
| **DNA Extraction & Storage** – 3 years (longer upon request) | XDNA | A [9] | 20 days |
| **DNA Identity Profile** – 15 STR markers | DNAF | A [9] | 10 days |
| **Doyne Honeycomb Retinal Dystrophy** – EFEMP1 screening | GENE | A [9] | 4 weeks |
| **Duchenne Muscular Dystrophy** – deletions/duplications only | DMD | A [9] | 10 days |
| **Duchenne Muscular Dystrophy** – full sequencing DMD1 gene | GENE | 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 sequencing across 46 genes + deletions/duplications | GENE | A A [9] | 5 weeks |
| **Endometrial Cancer NGS Panel** – full sequencing across 10 genes + deletions/duplications | GENE | Requires patient informed consent A A [9,11] | 4 weeks |
| **Epidermolysis Bullosa, Comprehensive NGS Panel** – full sequencing across 13 genes | GENE | A A [9] | 6 weeks |
| **Epidermolysis Bullosa, Simplex Panel** – full sequencing of KRT5 + KRT14 genes | GENE | A A [9] | 8 weeks |
| **Epilepsy, Adolescent/Adult Onset Panel** – sequencing across 83 genes + deletions/duplications | GENE | A | 6 weeks |

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# TDL Genetics

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **Epilepsy, Childhood Panel** – full sequencing across 211 genes + deletions/duplications | GENE | A | 6 weeks |
| **Epilepsy, Comprehensive NGS Panel** – full sequencing across 400 genes + deletions/duplications | GENE | A A [9] | 6 weeks |
| **Epilepsy, Neonatal Panel** – sequencing across 278 genes + deletions/duplications | GENE | A | 6 weeks |
| **Epilepsy, Progressive Myoclonic Panel** – sequencing across 18 genes + deletions/duplications | GENE | A | 6 weeks |
| **Exudative Vitreoretinopathy, Familial (FEVR) NGS Panel** – full sequencing NDP + FZD4 + LRP5 + TSPAN12 + ZNF408 genes | GENE | A A [9] | 4 weeks |
| **Eye Developmental Disease NGS Panel** – full sequencing across 59 genes | GENE | A A [9] | 4 weeks |
| **Fabry Disease, X-linked** – GLA gene sequencing | FABM | A [9] | 4 weeks |
| **Facioscapulohumeral Muscular Dystropy (FSHD)** – D4Z4 repeat deletion – ***Contact lab prior to sending*** | GENE | A A A [9] | 8 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 |
| **Factor XI Deficiency** – F11 Gene Variant Analysis (Known Genotype) | 11MA | A A (Whole blood 10ml) [40] | 6 weeks |
| **Factor XI Deficiency** – F11 Gene Variant Analysis (Unknown Genotype) | 11MA | A A (Whole blood 10ml) [40] | 12 weeks |
| **Familial Adenomatous Polyposis (FAP)** – full sequencing across 18 genes + deletions/duplications | GENE | Requires patient informed consent A A [9,11] | 4 weeks |
| **Familial Exudative Vitreoretinopathy (FEVR) NGS Panel** – full sequencing NDP + FZD4 + LRP5 + TSPAN12 + ZNF408 genes | GENE | A A [9] | 4 weeks |
| **Familial Hypercholesterolaemia** – LDLR + APOB + PCSK9 + LDLRAP1 screening | GENE | A A [9] | 4 weeks |
| **Familial Hypocalciuric Hypercalcaemia (FHH) Panel** – full sequencing CASR + AP2S1 + GNA11 genes | GENE | A A [9] | 8 weeks |
| **Familial Mediterranean Fever** – hotspot sequencing MEFV gene | GENE | A [9] | 4 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 sequencing across 22 genes | GENE | A A [9] | 6 weeks |



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# TDL Genetics

| | TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|---|
| NEW | **Fever (Recurrent) Screening** – across 4 genes | GENE | A A | 6 weeks |
| | **FLT3-ITD and FLT3-TKD screening assay** | FLT3 | A | 3-5 days |
| | **Fragile X Syndrome screen** – FMR1 repeat analysis PCR (3 weeks) + Southern Blot (8 weeks) if required | GENE | A A A [9] | 3-8 weeks |
| | **Friedreich Ataxia** – frataxin gene repeat analysis | GENE | A [9] | 4 weeks |
| | **Gastric Cancer NGS Panel** – full sequencing across 15 genes + deletions/duplications | GENE | Requires patient informed consent<br>A A [9,11] | 4 weeks |
| | **Gaucher Disease** – 8 common mutations | GENE | A [9] | 4 weeks |
| | **Gaucher Disease full gene sequencing** | GDMA | A [40] | 4 weeks |
| | **Genetic Reproductive Profile (Male)** – see profiles | GRP | A H [9] | 10-15 days |
| | **Gilbert Syndrome** – common UGT1A1 repeat variation | GENE | A [9] | 6 weeks |
| | **Glaucoma NGS Panel** – full gene sequencing across 26 genes | GENE | A A [9] | 6 weeks |
| | **Glucose-6-Phosphate Dehydrogenase (G6PD) Deficiency** – full G6PD gene sequencing | GENE | A [9] | 4 weeks |
| | **Glycogen storage disease type 2 (Pompe) mutation analysis** | POMP | A | 4 weeks |
| | **Haemochromatosis** – HFE common mutations C282Y + H63D | HMD | A [9] | 3 days |
| | **Haemolytic–Uremic Syndrome NGS Panel** – full sequencing across 15 genes | GENE | A A [9] | 8 weeks |
| | **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 | A A (Whole blood 10ml) [40] | 12 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 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 |
| | **Haemophilia B CVS Variant Analysis (Known Genotype)** – Sequence analysis of known variants for F9 | 9CVS | **CVS** [40] | 3 days |
| | **Harmony® Prenatal Test (Non-Invasive Prenatal Testing)** – common aneuploidy screening from maternal blood | NIPT | **J/Special tubes** [1] | 3-5 days |
| | **Harmony® Prenatal Test (Non-Invasive Prenatal Testing)** – common aneuploidy screening from maternal blood including 22q11.2 del | NIPQ | **J/Special tubes** [1] | 3-5 days |
| | **Hearing Loss NGS Panel** – full sequencing across 179 genes | GENE | A A [9] | 6 weeks |

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# TDL Genetics

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **Hemiplegic Migraine, Familial NGS Panel** – full sequencing across 6 genes + mtDNA | GENE | AA [9] | 5 weeks |
| **Hereditary Cancer NGS Panel, Comprehensive** – full sequencing across 127 genes + deletions/duplications | GENE | Requires patient informed consent AA [9,11] | 4 weeks |
| **Hereditary Hemorrhagic Telangiectasia** – ACVRL1 + ENG full sequencing + deletions/duplications | GENE | AA [9] | 8 weeks |
| **Hereditary Neuropathy NGS Panel** – full sequencing across 39 genes | GENE | AA [9] | 6 weeks |
| **Hereditary Neuropathy with Liability to Pressure Palsy** – PMP22 deletion analysis | GENE | A [9] | 4 weeks |
| **Hereditary Non-Polyposis Colon Cancer (Lynch Syndrome) NGS Panel** – full sequencing across 18 genes + deletions/duplications | GENE | Requires patient informed consent AA [9,11] | 4 weeks |
| **Hereditary Pancreatitis** – PRSS1 hotspot sequencing + deletions/duplications + SPINK1 N34S common mutation | GENE | A [9] | 8 weeks |
| **Hereditary Spastic Paraplegia NGS Panel** – full sequencing across 262 genes + deletions/duplications + mitochondrial DNA | GENE | AA [9] | 5 weeks |
| **Hermansky-Pudlak Syndrome/Oculocutaneous Albinism/Pigmentation NGS Panel** – full sequencing across 30 genes | GENE | AA [9] | 4 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 | AA [9] | 4 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 | A [9] | 4 weeks |
| **Huntington Disease** – HD gene repeat analysis PCR | GENE | Requires patient informed consent AA [9,11] | 4 weeks |
| **Hyperinsulinism NGS Panel** – full sequencing across 8 genes | GENE | AA [9] | 8 weeks |

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# TDL Genetics

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **Hyperparathyroidism** – CASR sequencing | GENE | A [9] | 8 weeks |
| **Hypertriglyceridemia NGS Panel** – full sequencing across 47 genes | GENE | A A [9] | 8 weeks |
| **Identity Profile (DNA)** – 15 STR markers | DNAF | A [9,11] | 10 days |
| **IgVH mutation analysis for CLL** | IGMU | A | 4 weeks |
| **Incontinentia Pigmenti, X-linked** – IKBKG/NEMO common mutation | GENE | A [9] | 4 weeks |
| **Intellectual Disability NGS Panel** – full sequencing across 560 genes + deletions/duplications | GENE | A A [9] | 6 weeks |
| **Intrahepatic Cholestasis NGS Panel** – full sequencing ABCB11 + ABCB4 + ATP8P1 | GENE | A A [9] | 6 weeks |
| **Iron Overload Profile** | IOP | A A B [9] | 3 days |
| **JAK 2** – exon 12 sequencing (rare mutations) – ***MUST arrive in the laboratory within 48 hours, before 12pm on Fridays*** | GENE | A [9] | 4 weeks |
| **JAK2 V617F genotyping assay** | JAK2 | A | 2 weeks |
| **Jervell and Lange-Nielsen Syndrome** – full sequencing KCNE1 + KCNQ1 genes | GENE | A A [9] | 6 weeks |
| **Jewish/Pan-ethnic carrier screening** – see profiles | ASHJ | A [9] | 4 weeks |
| **Joubert/Meckel-Gruber Syndrome NGS Panel** – full sequencing across 39 genes | GENE | A A [9] | 6 weeks |
| **Kallmann Syndrome NGS Panel** – full sequencing across 19 genes | GENE | A A [9] | 6 weeks |
| **Karyotype** – See Chromosome Analysis | | | |
| **Kennedy Disease (Spinal Bulbar Muscular Atrophy)** – AR repeat expansion | GENE | A [9] | 6 weeks |
| **Ketolysis Disorders NGS Panel – full sequencing across 7 genes** | GENE | A A [9] | 6 weeks |
| **Kidney/Urinary Tract Cancer NGS Panel** – full sequencing across 27 genes + deletions/duplications | GENE | Requires patient informed consent A A [9,11] | 4 weeks |
| **Krabbe Disease** – GALC sequencing + 502T/del common deletion | GENE | A [9] | 6 weeks |
| **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 sequencing across 32 genes | GENE | A A [9] | 6 weeks |
| **Lebers Hereditary Optic Neuropathy** – m.3460G>A + m.11778G>A + m.14484T>C common mutations | GENE | A [9] | 8 weeks |
| **Leigh Syndrome NGS Panel** – full sequencing across 78 genes + deletions/duplications + mitochondrial DNA | GENE | A A [9] | 4 weeks |
| **LEOPARD/Noonan/Cardio-Facio-Cutaneous/ Costello Syndromes NGS Panel** – full sequencing across 20 genes | GENE | A A [9] | 6 weeks |
| **Leukaemia Fusion Gene Screening Assay (Q30)** | LMPX | A | 2 weeks |

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# TDL Genetics

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **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 sequencing across 34 genes | GENE | (A)(A) [9] | 6 weeks |
| **Lissencephaly NGS Panel** – full sequencing across 14 genes | GENE | (A)(A) [9] | 8 weeks |
| **Loeys-Dietz Syndrome/Marfan Syndrome/Aortopathy NGS Panel** – full sequencing across 30 genes | GENE | (A)(A) [9] | 8 weeks |
| **Long-QT Syndrome/Brugada Syndrome** – full sequencing across 34 genes | GENE | (A)(A) [9] | 4 weeks |
| **Lowe (Oculocerebrorenal) Syndrome** – OCRL sequencing + large deletions | GENE | (A) [9] | 8 weeks |
| **Lung Disorders NGS Panel** – full sequencing across 51 genes | GENE | (A)(A) [9] | 6 weeks |
| **Lynch Syndrome (HNPCC) NGS Panel** – full sequencing across 18 genes + deletions/duplications | GENE | Requires patient informed consent (A)(A) [9,11] | 4 weeks |
| **Lysosomal Disorders NGS Panel** – full sequencing across 106 genes | GENE | (A)(A) [9] | 6 weeks |
| **Male Genetic Reproductive Profile** – see profiles | GRP | (A)(H) [9] | 10-15 days |
| **Marfan Syndrome** – FBN1 sequencing + deletions/duplications | GENE | (A) [9] | 5 weeks |
| **Marfan Syndrome/Loeys-Dietz Syndrome/Aortopathy NGS Panel** – full sequencing across 30 genes | GENE | (A)(A) [9] | 6 weeks |
| **Maturity-Onset Diabetes of the Young (MODY) NGS Panel** – full sequencing across 14 genes | GENE | (A)(A) [9] | 6 weeks |
| **Meckel-Gruber/Joubert Syndrome NGS Panel** – full sequencing across 39 genes | GENE | (A)(A) [9] | 6 weeks |
| **Medium-Chain Acyl-CoA Dehydrogenase Deficiency** – ACADM sequencing | GENE | (A) [9] | 4 weeks |
| **Melanoma NGS Panel** – full sequencing across 14 genes + deletions/duplications | GENE | Requires patient informed consent (A)(A) [9,11] | 4 weeks |
| **Microdeletion (common) Syndromes** – BOBs only | PBOB | **CVS**/**AF**/(A) [9] | 5 days |
| **Microphthalmia/Anophthalmia/Coloboma NGS Panel** – full sequencing across 39 genes | GENE | (A)(A) [9] | 6 weeks |
| **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 | (A) [9] | 5 weeks |
| **Mitochondrial genome sequencing** | GENE | (A) [9] | 5 weeks |
| **Motor Neurone Disease (Amylotrophic Lateral Sclerosis) NGS Panel** – full sequencing across 43 genes | GENE | (A)(A) [9] | 6 weeks |
| **MPL exon 10 analysis** | MPL | (A) | 2 weeks |
| **MTHFR** – common C677T + A1298C mutations | MTHF | (A) [9] | 5 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 |
|---|---|---|---|
| **Mucopolysaccharidosis NGS Panel** – full sequencing across 11 genes | GENE | A A [9] | 8 weeks |
| **Multiple Endocrine Neoplasia Type 1** – full MEN1 sequencing | GENE | Requires patient informed consent<br>A [9,11] | 8 weeks |
| **Multiple Endocrine Neoplasia Type 2** – RET gene hotspot sequencing | GENE | Requires patient informed consent<br>A [9,11] | 8 weeks |
| **Myotonic Dystrophy Type 1** – DMPK repeat PCR | GENE | A [9] | 4 weeks |
| **Myotonic Dystrophy Type 2 (PROMM)** – ZNF9 repeat PCR | GENE | A [9] | 4 weeks |
| **Narcolepsy (HLA DQB1*06:02)** | GENE | A [9] | 4 weeks |
| **Nephrotic Syndrome, Steroid-Resistant NGS Panel** – full sequencing across 14 genes | GENE | A A [9] | 6 weeks |
| **Nervous System/Brain Cancer NGS Panel** – full sequencing across 27 genes + deletions/duplications | GENE | Requires patient informed consent<br>A A [9,11] | 4 weeks |
| **Neurofibromatosis Type 1** – NF1 + SPRED1 sequencing + deletions/duplications – ***Contact lab prior to sending*** | GENE | Requires patient informed consent<br>A A [9,11] | 8 weeks |
| **Neurofibromatosis Type 2 (Bilateral Acoustic)** – NF2 sequencing + deletions/duplications | GENE | A [9] | 8 weeks |
| **Neuronal Ceroid Lipofuscinosis (Batten Disease) NGS Panel** – full sequencing across 14 genes | GENE | A A [9] | 6 weeks |
| **Non-Invasive Prenatal Testing** – common aneuploidy screening from maternal blood | NIPT | **J/Special tubes** [1] | 3-5 days |
| **Non-Invasive Prenatal Testing** – common aneuploidy screening from maternal blood including 22q11.2 del | NIPQ | **J/Special tubes** [1] | 3-5 days |
| **Noonan Syndrome Prenatal Screening** – PTPN11 exons 3 & 8 only | GENE | **CVS/AF** | 2 weeks |
| **Noonan/LEOPARD/Cardio-Facio-Cutaneous/ Costello Syndromes NGS Panel** – full sequencing across 20 genes | GENE | A A [9] | 6 weeks |
| **NPM1 mutascreen assay** | NPM1 | A | 2 weeks |
| **Nystagmus, X-linked Infantile** – FRMD7 gene sequencing | GENE | A [9] | 4 weeks |
| **Oculocutaneous Albinism/Hermansky-Pudlak Syndrome/Pigmentation NGS Panel** – full sequencing across 30 genes | GENE | A A [9] | 4 weeks |
| **Oculopharyngeal Muscular Dystrophy** – PABPN1 repeat analysis | GENE | A [9] | 4 weeks |
| **Optic Atrophy NGS Panel** – full sequencing OPA1 + OPA3 genes | GENE | A A [9] | 4 weeks |
| **Osteogenesis Imperfecta NGS Panel** – full sequencing across 14 genes | GENE | A A [9] | 5 weeks |
| **Ovarian Cancer NGS Panel** – full sequencing across 16 genes + deletions/duplications | GENE | Requires patient informed consent<br>A A [9,11] | 4 weeks |

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

**Key: See page 21 for sample taking and special handling instructions.**

# TDL Genetics

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **p53-related cancer predisposition (Li-Fraumeni Syndrome)** – TP53 sequencing + MLPA | GENE | Requires patient informed consent<br>A [9,11] | 6 weeks |
| **Pan-Ethnic/Jewish Carrier Screening** – see profiles | GENE | A [9] | 4 weeks |
| **Pancreatic Cancer NGS Panel** – full sequencing across 22 genes + deletions/duplications | GENE | Requires patient informed consent<br>A A [9,11] | 4 weeks |
| **Pancreatitis (Hereditary)** – PRSS1 hotspot sequencing + deletions/duplications + SPINK1 N34S common mutation | GENE | A [9] | 8 weeks |
| **Paraganglioma/Pheochromocytoma NGS Panel** – full sequencing across 11 genes + deletions/duplications | GENE | Requires patient informed consent<br>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]<br>**Contact lab** | 5 days |
| **Pelizaeus-Merzbacher Disease** – PLP1 sequencing + deletions/duplications | GENE | A [9] | 8 weeks |
| **Pendred Syndrome** – SLC26A4 gene sequencing | GENE | A [9] | 4 weeks |
| **Periodic Fever/Autoinflammation NGS Panel** – full sequencing across 36 genes | GENE | A A [9] | 6 weeks |
| **Peutz-Jegher Syndrome** – STK11 sequencing + deletions/duplications | GENE | A [9] | 8 weeks |
| **Phelan-McDermid Syndrome** – karyotype + FISH | KARY, FISH | **CVS** / **AF** / H [9] | 12-17 days |
| **Pheochromocytoma/Paraganglioma NGS Panel** – full sequencing across 11 genes + deletions/duplications | GENE | Requires patient informed consent<br>A A [9,11] | 4 weeks |
| **Pigmentation/Oculocutaneous Albinism/ Hermansky-Pudlak Syndrome NGS Panel** – full sequencing across 30 genes | GENE | A A [9] | 4 weeks |
| **POLG-Related Disorders** – full POLG sequencing + copy number variant | GENE | A [9] | 5 weeks |
| **Polycystic Kidney/NGS Panel** – full sequencing across 7 genes | GENE | A A [9] | 6 weeks |
| **Pontocerebellar Hypoplasia NGS Panel** – full sequencing across 9 genes | GENE | A A [9] | 6 weeks |
| **Postnatal array CGH** | CGH | A H [9] | 10 days |
| **Prader-Willi Syndrome (Primary Screen)** – methylation PCR | PWAM | A [9] | 5 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 sequencing of 38 genes | GENE | A A [9] | 6 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 |
|---|---|---|---|---|
| | **Primary Hyperoxaluria Panel** – full sequencing across 3 genes + CNV | GENE | 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 only** – rapid aneuploidy diagnosis for all chromosomes | KBOB | **Placental Sample** or **Solid Tissue** [1,9] | 3-6 days |
| | **Prostate Cancer NGS Panel** – full sequencing across 12 genes + 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 | A [9] | 8 weeks |
| | **PTEN-related disorders (including Bannayan-Riley-Ruvalcaba, Cowden & Proteus Syndromes)** – sequencing + deletions/duplications | GENE | A A [9,11] | 8 weeks |
| | **QF-PCR rapid common aneuploidy screen** | APC | **AF**/A [9] | 1-2 days |
| NEW | **Recurrent Fever Screening** – across 4 genes | GENE | A A | 6 weeks |
| | **Recurrent Miscarriage Profile (female)** – see profiles | RMP | A A B C C C H [9,18] | 10-15 days |
| | **Renal Cysts and Diabetes (RCAD)** – HNF-1β sequencing + deletions/duplications | GENE | A [9] | 8 weeks |
| | **Renal/Urinary Tract Cancer NGS Panel** – full sequencing across 28 genes + deletions/duplications | GENE | Requires patient informed consent A A [9,11] | 4 weeks |
| | **Retinal Dystrophy/NGS Panel** – full sequencing across 537 genes | GENE | A A [9] | 5 weeks |
| | **Retinoblastoma** – RB1 sequencing + deletions/duplications | GENE | Requires patient informed consent A A [9,11] | 8 weeks |
| | **Rett Syndrome (MECP2 gene only)** – full sequencing + deletions/duplications | GENE | Requires patient informed consent A [9,11] | 8 weeks |
| | **Rett/Angelman Syndromes NGS Panel** – full sequencing across 30 genes | GENE | A A [9] | 6 weeks |
| | **Sarcoma NGS Panel** – full sequencing across 26 genes + deletions/duplications | GENE | Requires patient informed consent A A [9,11] | 4 weeks |
| | **Short-Chain Acyl-CoA Dehydrogenase Deficiency** – ACADS sequencing | GENE | A [9] | 5 weeks |
| | **Short Stature** – SHOX mutation screening + deletions/duplications | GENE | A [9] | 8 weeks |
| | **Silver-Russell Syndrome** – methylation studies on 11p15 imprinting domains KvDMR + H19 | GENE | A [9] | 4 weeks |
| | **Skeletal Dysplasia NGS Panel** – full sequencing across 179 genes | GENE | A A [9] | 6 weeks |
| | **Smith-Lemli-Opitz Syndrome** – DHCR7 sequencing | GENE | A [9] | 8 weeks |

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**Key: See page 21 for sample taking and special handling instructions.**

# TDL Genetics

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **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 | (A)[9] | 5 weeks |
| **Spastic Paraplegia NGS Panel** – full sequencing across 262 genes + deletions/duplications + mitochondrial DNA | GENE | (A)(A)[9] | 5 weeks |
| **Spinal Bulbar Muscular Atrophy (Kennedy Disease)** – AR repeat analysis | GENE | (A)[9] | 6 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 | (A)[9] | 4 weeks |
| **SRY (Sex-determining Region Y)** | SRY | (A)[9] | 2 days |
| **Stargardt/Macular Dystrophy NGS Panel** – full sequencing across 13 genes | GENE | (A)(A)[9] | 4 weeks |
| **Stickler Syndrome NGS Panel** – full sequencing across 11 genes | GENE | (A)(A)[9] | 6 weeks |
| **Systemic mastocystosis** – C-Kit common mutation (KIT D816V) | GENE | **Bone Marrow**/(A) | 5 days |
| **T cell clonality assay (TCR beta and TCR gamma)** | TCRA | (A) or **FFPE** | 2 weeks |
| **Tay Sachs Screen** – 5 common mutations. See also Pan-Ethnic/Jewish Carrier Profile | GENE | (A)[9] | 5 weeks |
| **Thrombotic Risk Profile** – see profiles | PROP | (A)(A)(B) (C)(C)(C)[18] | 5 days |
| **Thyroid Cancer NGS Panel** – full sequencing across 7 genes + deletions/duplications | GENE | Requires patient informed consent (A)(A)[9,11] | 4 weeks |
| **Torsion Dystonia (DYT1)** – TOR1A common mutation c.904-906delGAG | GENE | (A)[9] | 5 weeks |
| **Treacher-Collins Syndrome NGS Panel** – full sequencing POLR1C + POLR1D + TCOF1 | GENE | (A)(A)[9] | 6 weeks |
| **Tuberous Sclerosis** – full TSC1 + TSC2 gene sequencing | GENE | (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 sequencing across 28 genes + deletions/duplications | GENE | Requires patient informed consent (A)(A)[9,11] | 4 weeks |
| **Usher Syndrome NGS Panel** – full sequencing across 19 genes | GENE | (A)(A)[9] | 6 weeks |
| **Very Long-Chain Acyl-CoA Dehydrogenase Deficiency** – ACADVL sequencing | GENE | (A)[9] | 6 weeks |
| **Von Hippel-Lindau Syndrome** – VHL sequencing + deletions/duplications | GENE | (A)[9] | 8 weeks |
| **Von Willebrands Disease** – Type 2 (Ex28) Variant Analysis (VWF) (Known Genotype) | VW2A | (A)(A) (Whole blood 10ml)[40] | 6 weeks |



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# TDL Genetics

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **Von Willebrands Disease** – Type 2 (Ex28) Variant Analysis (VWF) (Unknown Genotype) | VW2A | AA (Whole blood 10ml) [40] | 12 weeks |
| **Von Willebrands Disease** – Type 2 VWD Variant Analysis (VWF) (Known Genotype) | 2AVW | AA (Whole blood 10ml) [40] | 6 weeks |
| **Von Willebrands Disease** – Type 2 VWD Variant Analysis (VWF) (Unknown Genotype) | 2AVW | AA (Whole blood 10ml) [40] | 12 weeks |
| **Von Willebrands Disease** – Type 2N Variant Analysis (VWF) (Known Genotype) | VW2N | AA (Whole blood 10ml) [40] | 6 weeks |
| **Von Willebrands Disease** – Type 2N Variant Analysis (VWF) (Unknown Genotype) | VW2N | AA (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 sequencing across 12 genes | GENE | AA [9] | 6 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.**

**Key: See page 21 for sample taking and special handling instructions.**

## 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.**
**Turnaround times are quoted as working days.**

# 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.


4978 Santa Anita Ave
Temple City, CA 91780
(p) 626-350-0537 (f) 626-454-1667
info@fulgentgenetics.com
www.fulgentgenetics.com

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DRAFT RESULTS

TEST PERFORMED

Beacon Expanded Female Carrier Screening

(326 Gene Panel; full gene sequencing with deletion and duplication analysis)

| Condition and Gene | Inheritance | Patient Last, Patient First | Partner |
|---|---|---|---|
| Fragile X syndrome FMR1 | X-linked | Premutation carrier (29 repeats and 75 repeats; 2 AGG interruption detected) | N/A |

INTERPRETATION:

Notes and Recommendations:

- Based on these results, there is increased risk to have a child with an FMR1-related condition. See below for details.
- Testing for copy number changes in the SMN1 gene was performed to screen for your carrier status for Spinal Muscular Atrophy. Two copies of the SMN1 gene were detected. These results are within the normal range for non-carriers. See Limitations section for more information.
- This carrier screening test does not screen for all possible genetics conditions, nor for all possible mutations in every gene tested. Individuals with negative test results may still have up to a 3-4% risk to have a child with a birth defect due to genetic and/or environmental factors.
- Patients may wish to discuss any carrier results with blood relatives, as there is an increased chance that they are also carriers.

Patient: Patient Last, Patient First; Sex: ?;
DOB: Jan 01, 1900; MR#: 000-000-000

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DocID: ; Page 1 of 17


4978 Santa Anita Ave
Temple City, CA 91780
(p) 626-350-0537 (f) 626-454-1667
info@fulgentgenetics.com
www.fulgentgenetics.com

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DRAFT RESULTS

TEST PERFORMED

Beacon Expanded Female Carrier Screening

(326 Gene Panel; full gene sequencing with deletion and duplication analysis)

| Condition and Gene | Inheritance | Patient Last, Patient First | Partner |
|---|---|---|---|
| Neuronal ceroid lipofuscinosis, CLN5-related CLN5 | Autosomal Recessive | Carrier c.906-5G>A (p.?) | N/A |

INTERPRETATION:

Notes and Recommendations:

- A likely pathogenic variant in the *CLN5* gene was identified. Based on these results, there is an approximately 1 in 920 chance of having a child affected with **Neuronal ceroid lipofuscinosis**. Testing for mutations in this gene in the partner is highly recommended to better understand this risk. Please contact the lab for this service. See page 2 of this report for more information.
- Testing for a 3 nucleotide (CGG) repeat sequence in the FMR1 gene was performed to screen for your carrier status for Fragile X Syndrome. The repeat sizes detected were: 18 and 22 repeats. These results are within the normal range. Therefore, you are not considered a carrier for Fragile X Syndrome.
- Testing for copy number changes in the SMN1 gene was performed to screen for your carrier status for Spinal Muscular Atrophy. Two copies of the SMN1 gene were detected. These results are within the normal range for non-carriers. See Limitations section for more information.
- This carrier screening test does not screen for all possible genetics conditions, nor for all possible mutations in every gene tested. Individuals with negative test results may still have up to a 3-4% risk to have a child with a birth defect due to genetic and/or environmental factors.
- Patients may wish to discuss any carrier results with blood relatives, as there is an increased chance that they are also carriers.

Patient: Patient Last, Patient First; Sex: ?;
DOB: Jan 01, 1900; MR#: 000-000-000

Accession#: FT-1612508; FD Patient#: FT-PT21496;
DocID: ; Page 1 of 17

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 |
|---|---|---|---|
| **Pan-Ethnic Carrier Screen** | GENE | A 9 | 4 weeks |
| **Jewish Panel Carrier Screen** | ASHJ | A 9 | 4 weeks |

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

**Key: See page 21 for sample taking and special handling instructions.**

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 18 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
- 22q11.2 deletion

### 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 or for a deletion in chromosome 22q11.2.

### 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).

Options are also available to look for Turner syndrome only (and not the other sex chromosome conditions), and/or to look for a deletion in chromosome 22q11.2. 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 |
| **Non-Invasive Prenatal Testing** – common aneuploidy screening from maternal blood including 22q11.2 del | **NIPQ** | 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.**

**Key: See page 21 for sample taking and special handling instructions.**

# TDL Genetics

## 22Q DELETION SCREENING

TDL Genetics will include 22q11.2 deletion, if requested as an additional option in the Harmony prenatal test menu. 22q11.2 deletion is the underlying cause of conditions described as DiGeorge syndrome and velocardiofacial syndrome (VCFS).

### Why is 22q11.2 being included in the Harmony test (and not other microdeletion syndromes)?

- The 22q11.2 deletion has been carefully chosen as the only clinically relevant microdeletion syndrome to include with NIPT.
- 22q11.2 deletion is the most common chromosomal microdeletion, occurring in up to 1 in 1000 pregnancies.
- Other microdeletion syndromes have a much lower incidence and would increase the false positive rate of the test.

### What is the performance of the 22q.11.2 addition?

- Inclusion of 22q11.2 deletion is aimed at a screening population, the test has been shown to identify 75% of pregnancies with a 22q11.2 deletion. Therefore, pregnancies with a known higher risk of 22q11.2 deletion, whether ascertained through ultrasound scan or family history should consider invasive diagnostic testing as this test will not identify 1 in 4 (25%) of cases.
- There is a false-positive rate of up to 0.5% associated with the 22q11.2 part of the Harmony test. This means that in 200 women with a pregnancy unaffected by 22q11.2 deletion 199 will receive a low probability result and 1 will receive a high probability result.

### What is the benefit of finding out that a pregnancy has a high probability of a 22q11.2 deletion?

- Early screening and diagnosis of 22q11.2 deletions affects pregnancy management.
- Following confirmatory diagnosis of 22q.11.2 deletion the following may be recommended:
  - Level ll ultrasound with fetal echocardiogram to evaluate for anomalies such as congenital heart defect and cleft palate.
  - Screening for and coordinated management of associated conditions.
  - Delivery at a tertiary care centre.

### How do I request the 22q11.2 additional test option?

- Our updated request forms include the option of selecting 22q11.2 deletion. Tick this box if this is required.
- The 22q11.2 deletion cannot be requested in twin pregnancies or in pregnancies where the mother has a 22q11.2 duplication or deletion.
- There is an additional charge for 22q11.2 deletion.
- When discussing the informed consent for the Harmony test with your patient you must ensure they have read all the information on the reverse of the request form including the additional section headed 'What are the limitations of the Harmony prenatal test for 22q11.2?'

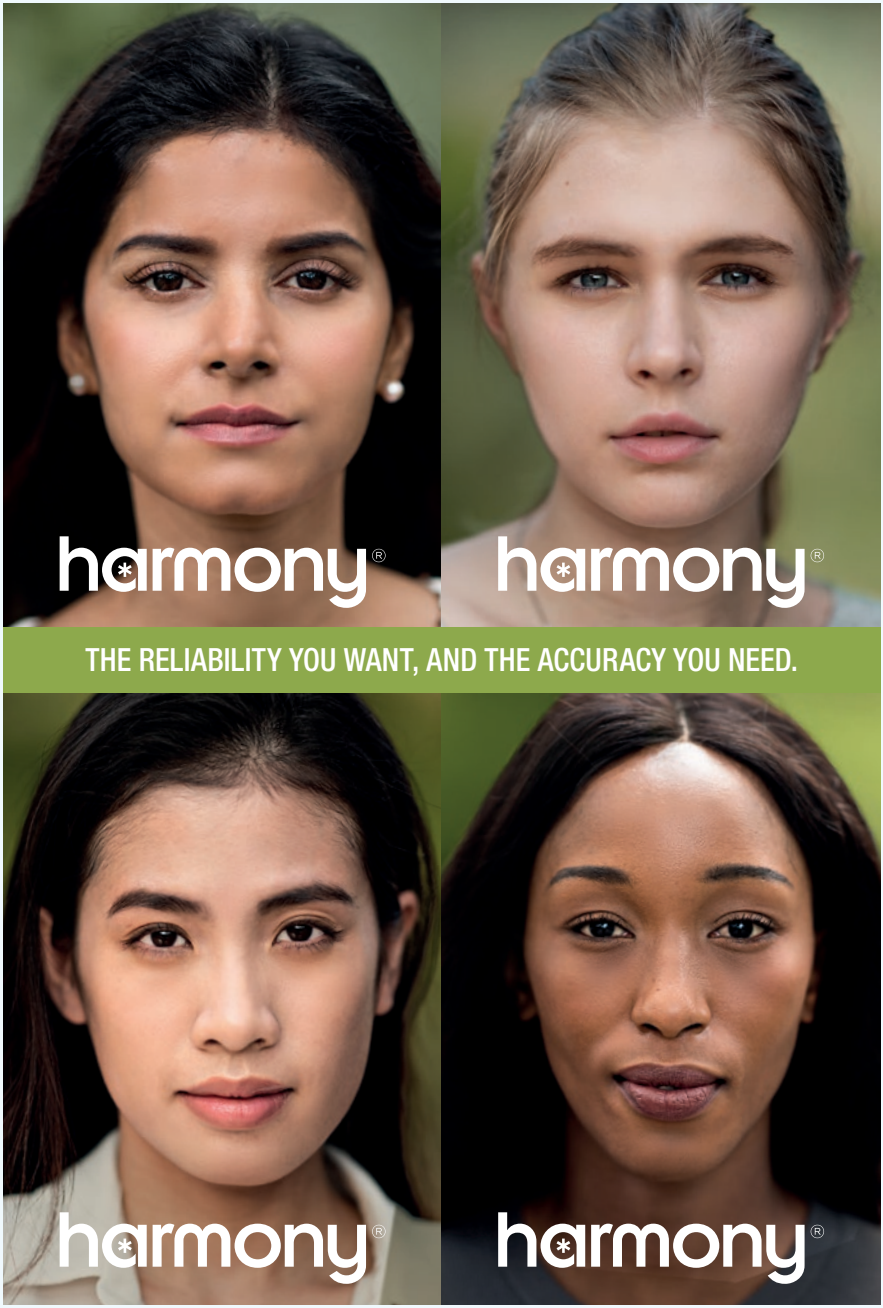
***If 22q11.2 deletion is detected, we will undertake a confirmatory aCGH (microarray) on a CVS or Amnio, if undertaken, at no additional charge.***

If you would like any further information about the 22q11.2 test please contact us at TDL Genetics by phone 020 7307 7409 or email harmony@tdlgenetics.com



**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 21 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]

## PAN-ETHNIC CARRIER SCREEN

2000+ Common Mutations across 250+ Diseases*

includes 20+ X-linked Diseases and 60+ Jewish Panel Diseases

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]

## JEWISH CARRIER SCREEN

60+ Jewish Panel Diseases*

uses the same technology as the Pan-Ethnic Carrier Screen, but filters results to only report on mutations commonly seen in the Jewish Population

TAT 4 WEEKS

ASHJ

A [9]

* Disease list available from the Laboratory

## 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
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 21 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 |

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# 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

Key: See page 21 for sample taking and special handling instructions.

# Allergy

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **Allergy – Individual Allergens** See list on page 137 | 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 141 | | | |
| **Histamine Releasing Urticaria Test** | CURT | B | 10-14 days |
| **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 droppings e7
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 141 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
Cockroach, Oriental i207
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
Jack fruit f318
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
Eel f264
Fish (cod) f3
Grouper f410
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 |
| | | | |
| **PR-10 Proteins** | ZZ22 | B | 2 days |
| **Lipid Transfer Proteins** | ZZ23 | B | 2 days |
| **Profilins** | ZZ24 | B | 2 days |
| **Polcalcins** | ZZ25 | B | 2 days |
| **Seed Storage Proteins** | ZZ26 | B | 2 days |
| **Glycan Determinants** | ZZ27 | B | 2 days |
| **Lipocalins** | ZZ28 | B | 2 days |
| **Parvalbumins** | ZZ29 | B | 2 days |
| **Serum Albumins** | ZZ30 | B | 2 days |
| **Tropomyosins** | ZZ31 | B | 2 days |

*** Please quote the ZZ Code when requesting Allergen Component Profiles.**

**Key: See page 21 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.

# 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
Total Antioxidant Status
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** (see page 145) | 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 56.

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **1,25 Vitamin D** | D3 | B | 5-8 days |
| **Beta Carotene** | CARO | B | 5 days |
| **Biotin** | BIOS | B | 1 week |
| **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™ & 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 (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 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 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 do a number of tests from one TINY and it is possible to collect 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™ & 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 21 for sample taking and special handling instructions.

# TDL Tinies™ & 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 NEW

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 PHE 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** NEW

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™ & Self-collection samples

## STEP 1
### TDL TINY™ SAMPLE COLLECTION

THE DOCTORS LABORATORY

**Sample collection instructions**
**Please read these instructions first, slowly and carefully, the whole way through before attempting to collect your sample.**

**Clearly complete the Name Label using a ball point pen with:**

• Your Surname • Your Date of Birth • Your First name • Date of Blood Collection

**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 pack contents: Step 1**

Your name label

Moist wipe x 2

Alcotip swab x 1 (+1 spare)


Lancet x 1 (+2 spares)


Plaster

Security label


Protective packing wallet


Blood collection tube

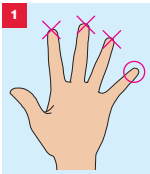
**IMPORTANT!**

The protective packing wallet has been designed to provide a stable way of holding the blood collection tube whilst a sample is taken. Please insert the tube as shown above.

**IMPORTANT!**

The BLUE lancet activates on contact when positioned and pressed against the skin. Lancets are for single use only.

**1**

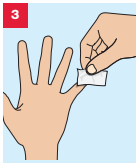


The best location for collecting finger prick samples are from the side of your little finger. Open the pack of lancets.

**2**

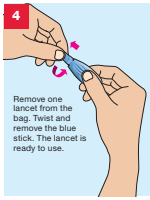
Wash your hands in warm soapy water. **It is much easier to collect your sample if hands are warm.** Dry them thoroughly with a clean, dry towel.

**3**



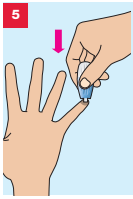
Using the Alcotip Swab clean the selected little finger. Wipe dry with a clean tissue. **Be sure your finger is completely dry as blood will not form a drop at the puncture site of a moist finger.**

**4**



Remove one lancet from the bag. Twist and remove the blue stick. The lancet is ready to use.

**5**



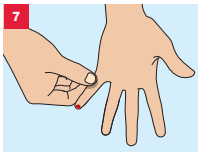
Position the lancet against the side of your little finger. The lancet will activate in one step only when positioned and pressed FIRMLY against the skin. Should you need to repeat the process to help obtain enough blood use one of the remaining lancets. **Stand up rather than sit down when collecting your blood drops**

**6**

This will puncture the skin and a small drop of blood will form.

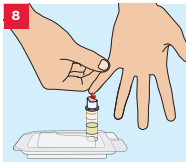
Wipe away the first drop of blood with a clean tissue.

**7**



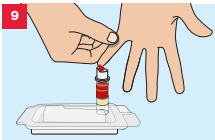
Holding your hand/arm downwards, firmly massage the side of your hand down to your little finger to encourage blood flow.

**8**



Take your little finger with the other hand and gently milk your hand and little finger to help the blood drop into the blood collection tube as shown.

**9**

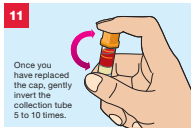


Fill the blood collection tube to the upper line on the side of the tube. NB: If you are unable to collect enough blood use the second lancet on your little finger on the other hand. Alternatively, try wiping the little finger you have been using with a dry tissue. Pause for 5-10 seconds and blood drops are likely to reform, and you can start collecting again.

**10**

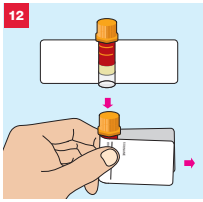
Once you have filed up to the TOP FILL LINE – or even just over – stop collecting and apply the supplied spot plaster to stop the bleeding. Then push on the cap of the blood collection tube (or tubes) securely until you hear an audible click to confirm closure.

**11**



Once you have replaced the cap, gently invert the collection tube 5 to 10 times.

**12**



Make sure your tube(s) 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.**

**13**

Place inside the Text Kit Box:

- **the protective packing wallet containing the blood collection tube(s)**
- **used lancet(s)**

**Key: See page 21 for sample taking and special handling instructions.**

# TDL Tinies™ & Self-collection samples

## Sample collection instructions

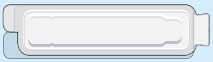
**Please read these instructions first, slowly and carefully, the whole way through before attempting to collect your sample.**

**Clearly complete the Specimen bottle and Swab labels using a ball point pen with:**
- **Patient Surname**
- **Patient First name**
- **Patient Date of Birth**

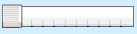
**Sample self-collection is carried out at an individual's own risk.**

## Your sample collection pack contents: Steps 2-4


Self addressed, post paid mailer



Protective packing wallet



Urine Sample tube

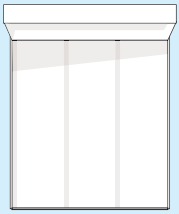
Swabs x 2

**IMPORTANT!**


A Sample label is supplied for each of the Urine, Throat and Rectal samples. **Please make sure the correct label is used for the correct sample type.**


Request Form x 1


Urine collection box



Test Kit Box

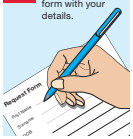

Sample labels x 3

## STEP 2
## URINE SAMPLE COLLECTION

**1**

Wash your hands.

**2**

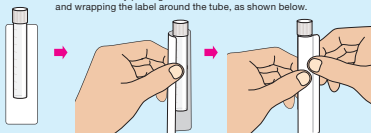



Complete the enclosed request form with your details.

**3**


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.**

**4**



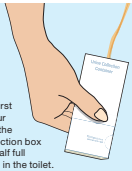
Affix the label by placing the tube in the middle of the label and wrapping the label around the tube, as shown below.

**5**

Squeeze the sides of the urine collection box to expand it.

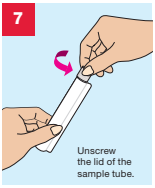
The box has a plastic lining inside to contain the urine. Please take care not to damage or puncture the lining.

**6**



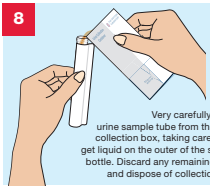
Pass the first part of your urine into the urine collection box until it is half full then finish in the toilet.

**7**



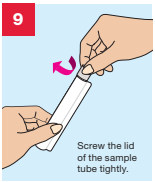
Unscrew the lid of the sample tube.

**8**



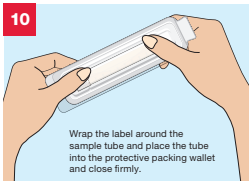
Very carefully fill the urine sample tube from the urine collection box, taking care not to get liquid on the outer of the sample bottle. Discard any remaining urine and dispose of collection box.

**9**



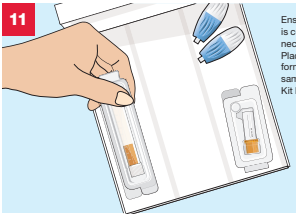
Screw the lid of the sample tube tightly.

**10**



Wrap the label around the sample tube and place the tube into the protective packing wallet and close firmly.

**11**



Ensure that the form is completed with all necessary details. Place the completed form and your urine sample into the Test Kit Box.



**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™ & Self-collection samples

## STEP 3
### THROAT SWAB SAMPLE COLLECTION

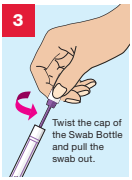
**1**

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**

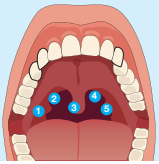


Twist the cap of the Swab Bottle and pull the swab out.

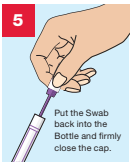
**4**

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

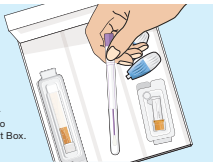



**5**



Put the Swab back into the Bottle and firmly close the cap.

**6**



Place your sample into the Test Kit Box.

## STEP 4
### RECTAL SWAB SAMPLE COLLECTION

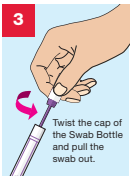
**1**

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.


**3**

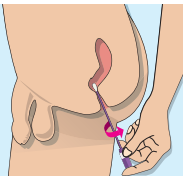


Twist the cap of the Swab Bottle and pull the swab out.

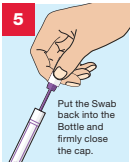
**4**

Holding the swab tightly, slowly insert the tip into your anus.

Twist the swab slightly as you slowly pull it out of your anus.



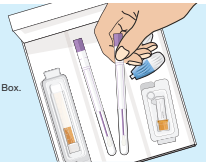
**5**



Put the Swab back into the Bottle and firmly close the cap.

**6**

Place your sample into the Test Kit Box.



**7**

**Please run through the checklist on the left before returning samples.**

Seal the Test Kit Box using the security sticker provided. Place the Test Kit Box into the grey self addressed post-paid mailer.

## STEP 5
### CHECKLIST

**Before you return your samples please tick off the contents of the grey self addressed post-paid mailer.**

- ☐ **Completed Request form**
- ☐ **Blood collection tube(s) in the protective packing wallet**
- ☐ **Used lancets**
- ☐ **Urine sample in the outer transport bottle**
- ☐ **Throat swab in the swab bottle**
- ☐ **Rectal swab in its swab bottle**
- ☐ **Place all of the samples into the Test Kit Box and seal with the security sticker**

**You are now ready to seal the grey self addressed post-paid mailer.**

Please post your samples to **The Doctors Laboratory** as soon as possible from **ANY** Royal Mail post box in the UK. No stamp is required within 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

 TAP2600C/13-05-19/V2

**Key: See page 21 for sample taking and special handling instructions.**

# 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** | DOAP | B | 5 days |
| **Drugs of Abuse Profile – Random Urine Sample/No Chain of Custody Plus Alcohol** | DOA3 | **RU** | 2 days (5 days with LCMS/MS confirmation) |
| **Drugs of Abuse Profile – Random Urine Sample/ No Chain of Custody** | DOA | **RU** | 2 days (5 days with LCMS/MS confirmation) |
| **Drugs of Abuse Profile – With Chain of Custody** | DOAL | **RU/CoC Collection Containers**[1,2] | 2 days (5 days with LCMS/MS confirmation) |
| **Drugs of Abuse Profile – Without Chain of Custody** | DOAN | **RU**[2] | 2 days (5 days with LCMS/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 153

### 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** | ALUM | K | 7 days |
| **Arsenic** | ARS | A or H | 5 days |
| **Cadmium** | CADM | A or H | 5 days |
| **Chromium** | CHRO | A | 5 days |
| **Cobalt (Serum)** | COBB | B | 5 days |
| **Copper (Serum)** | COPP | B | 5 days |
| **Lead** | 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** | MERC | A or H | 5 days |
| **Nickel** | NICK | B | 5 days |
| **Silver** | 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 | ALUU | RU | 1-2 weeks |
| Arsenic | ARSE | RU[30] | 5 days |
| Cadmium | URCD | RU[30] | 5 days |
| Chromium | URCR | RU[30] | 10 days |
| Cobalt | COBA | RU[30] | 5 days |
| Copper | URCU | CU | 5 days |
| Lead | URPB | RU | 5 days |
| Magnesium | URMG | PU | 1 day |
| Mercury | URHG | RU[1] | 5 days |
| Nickel | NICU | RU | 10 days |
| Silver | USIL | RU | 5 days |
| Zinc | 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 (Blood) | CHRC | H | 5 days |
| Cholinesterase (Serum/Pseudo) | CHPS | B | 4 hours |
| Cotinine (Saliva) | SCOT | Saliva Kit[1] | 1-2 weeks |
| 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 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 available on 020 7307 7373.

## Urgent samples

It is helpful if requests for urgent samples can be discussed with the Cytology Manager. Please telephone 020 7307 7323.

## Use of service/Information required

Request forms must include **3 identifiers** (this can be patient's full name = 2, date of birth, hospital number or reference number) and need to accompany each sample.

**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

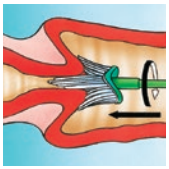
The Consultant Cytopathologists and the Advanced Practitioner work together to provide clinical and technical advice, including recommendations for follow-up, HPV testing and management of complex cases. To contact the department directly, please telephone 020 7307 7323.

# 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.**

# 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.

Key: See page 21 for sample taking and special handling instructions.

# 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 162)

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
Macrolide Resistance Test (M.gen)*
Ureaplasma
Trichomonas vaginalis
Gardnerella vaginalis
Herpes Simplex I/II

**All tests can be requested individually**
**included if POSITIVE M.gen is detected from the same sample.*

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 testing microscopically for abnormal cells from a PAP smear.

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 CYTOLOGY result from this 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 this 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

**Since 1st January 2019 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) will only be processed if specifically requested. The PAPT would be charged as an additional test.**
- **If HPV result is DETECTED, cervical cytology (PAPT) will be processed, even if not requested. The PAPT cervical sample will NOT be charged additionally.**
- **If cervical cytology (PAPT) is requested, HPV will always be processed with the PAPT. The PAPT will 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. 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** | 2-3 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** | 2-3 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 HPV is DETECTED/POSITIVE. PAPT will NOT be charged.**

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **HPV mRNA (All High Risk Subtypes)** | HPVH | **TPV** | 2-3 days |

If 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 Typed DNA** | HP20 | **TPV/PCR Swab** | 2-3 days |

HPV low and high risk DNA subtypes will be reported individually (5 low and 14 high risk).
If HPV is DETECTED/POSITIVE, cervical cytology (PAPT) will be processed **without charge**.
The PAPT will be processed from the same vial.

### Requests for HPVT as a single test

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **HPV Typed DNA** | 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.



**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 14 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 with reporting of high risk subtypes (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, 68).

**HPVZ** Self-Collected HPV DNA with **individual** reporting of all subtypes 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, 68.

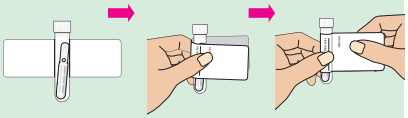
For more information, or to order Self-Collection HPV Test Packs, please contact Annette Wilkinson on 020 7307 7373 or annette.wilkinson@tdlpathology.com

| TEST | CODE | SAMPLE REQS | TAT |
|---|---|---|---|
| **HPV mRNA (All High Risk Subtypes)** | HPVY | **Self-collection kit** | 3 days |
| **HPV Individually Typed High Risk DNA Subtypes** | HPVZ | **Self-collection kit** | 10 days |

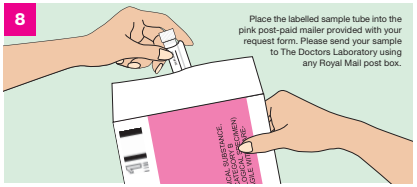
# Self-collection HPV samples

**7** Make sure your sample is labelled with your details using the label supplied in your pack. This is very important as unlabelled samples cannot be processed.

Affix the label by placing the sample tube in the middle of the label and wrapping the label around the shaft as shown below.



**8** Place the labelled sample tube into the pink post-paid mailer provided with your request form. Please send your sample to The Doctors Laboratory using any Royal Mail post box.




**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


TAP2660/16-09-15/V4



THE DOCTORS LABORATORY

## SELF-COLLECTION HPV SAMPLE

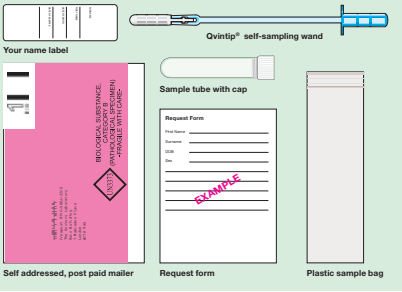
### Sample Collection Instructions

**Please read these instructions the whole way through before attempting to collect your sample.**

**Clearly complete the Name Label using a ball point pen with:**

- **Your surname**
- **Your first name**
- **Your date of birth**
- **Date of sample collection**

### Your sample collection pack contents




**Self-sampling step-by-step**

Before use, check that the product is intact (blue and white self-sampling wand, sample tube with cap, pink post-paid mailer). The self-sampling wand should be handled with care and only according to these instructions. Hold the wand straight when taking it in and 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 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.

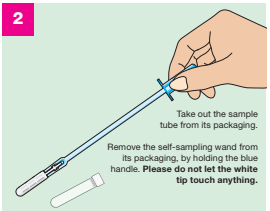
**PLEASE NOTE – FOR EASY SELF SAMPLING**

- Please note that 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 **immediately be sent in by post** after taking.

**1**

Wash your hands in warm soapy water.

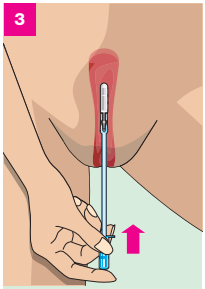
**2**



Take out the sample tube from its packaging.

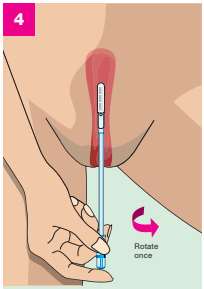
Remove the self-sampling wand from its packaging, by holding the blue handle. **Please do not let the white tip touch anything.**

**3**



Keep the wand straight while collecting your sample. Insert the wand into your vagina (see diagram).

**4**

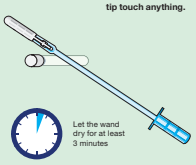



Rotate the self-sampling wand once. Take the wand out (keeping it straight).

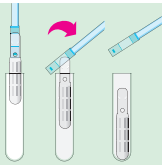
**5**

Let the wand dry for at least 3 minutes, by resting in against the sample tube with the white tip in the air.

**Make sure not to let the white tip touch anything.**




**6**



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 |

**Key: See page 21 for sample taking and special handling instructions.**

# 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 21 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) |



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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.

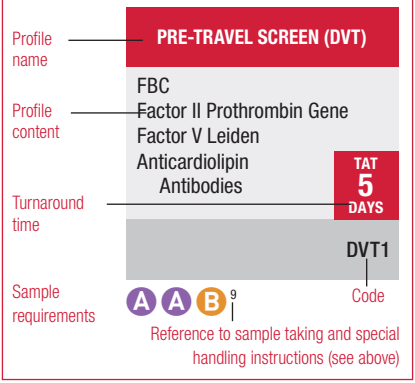
39 Urgent samples have a 3 day TAT if genotype is required for prenatal diagnosis or two weeks TAT if urgent for other factors.

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.

**Example of profile panel information**



# Alphabetical test index

| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| 1,25 Vitamin D | D3 | B | 5-8 days | 144 |
| 2-Butanone GC | BUTA | RU | 7 days | 156 |
| 2-Furoic Acid | 2FA | RU | 10 days | 156 |
| 4th Generation HIV1& 2 Abs/p24 Ag (45 days post-contact)* | THIV | B Tiny™ | 4 hours | 94 |
| 5 HIAA | RU5H | PU[1] | 5 days | 27 |
| 5' Nucleotidase | 5NT | B | 5 days | 27 |
| 5th Generation HIV1& 2 Abs/p24 Ag (45 days post-contact)* | THV5 | B Tiny™ | 4 hours | 94 |
| 6-Thioguanine Nucleotides | TGN | A A | 2 weeks | 27 |
| 7 STI Profile by PCR ( 7 tests from 1 Sample) | PP12 | FCRU/PCR/TPV/Semen | 2 days | 65,75 |
| 11 Deoxycorticosterone | DEOX | B | 10 days | 49 |
| 11 Deoxycortisol | 11DC | B (Frozen) | 10 days | 49 |
| 16S rRNA Bacterial Gene | 16S | J | 1 week | 40 |
| 17 Hydroxyprogesterone | 17OH | B | 5 days | 49 |
| 18S rRNA Fungal Gene | 18S | J | 1 week | 40 |
| 21 Hydroxylase Ab's | 21HA | B (Frozen) | 10 days | 27 |
| Acetone – Blood | ACTB | A or H | 2 weeks | 156 |
| Acetone – Urine | ACTU | RU | 5 days | 156 |
| Acetylcholine Receptor Autoantibodies | ACRA | B[4] | 5 days | 27 |
| Acetylcholinesterase Isoenzymes | ACEI | AF | 7 days | 27 |
| Acid Phosphatase – Total | APT | B | 5 days | 27 |
| ACTH (Adreno Corticotrophic Hormone) | ACTH | A (Plasma Frozen)[41] | 1 day | 49 |
| Activated Protein C Resistance | APCR | C (Frozen)[4,18] | 3 days | 37 |
| Acute Viral Hepatitis Screen | AHSC | B | 4 hours | 77 |
| ADAMTS-13 Activity | CP13 | C (Frozen) | 3 days | 37 |
| ADAMTS-13 Antibody | A13A | C (Frozen) | 1 month | 37 |
| Adenosine Deaminase | AD | A/B/Fluid | 3 weeks | 27 |
| Adenovirus by PCR | ADV | A/PCR/VS/SC | 7 days | 96 |
| Adiponectin | ADIP | B | 2 weeks | 27 |
| Adrenal Cortex Antibodies | ACTX | B | 2 days | 77 |
| Albumin | ALB | B | 4 hours | 27 |
| Alcohol (Medical) | ALCO | G[1] | 4 hours | 27 |
| Alcohol (Urine) | UALC | RU | 4 hours | 27 |
| Alcohol Profile | AP | A B B G | 5-7 days | 153-154,156 |
| Alcohol Profile 2 | ALCP | A A B B G RU | 5-7 days | 153-154,156 |
| Aldolase | ALDO | B | 5 days | 27 |
| Aldosterone | ALDN | B | 5 days | 49 |
| Aldosterone (Urine) | UALD | PU | 5 days | 49 |
| Alk Phosphatase Isoenzymes | APIE | B | 5 days | 27 |
| Alkaline Phosphatase | ALP | B | 4 hours | 27 |
| Allergen Component Profiles | | | | 141 |
| Allergy – Individual Allergens See list on page 137 | ALLE | B | 2 days | 134 |



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



**Key: See page 21 for sample taking and special handling instructions.**

# Alphabetical test index

| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| Amoebic (E. histolytica) PCR | AMAG | RF | 2 days | 86 |
| Amphetamines – Blood | AMPB | B B | 5 days | 153 |
| Amylase | AMY | B | 4 hours | 27 |
| Amylase (Urine) | UAMY | CU | 4 hours | 27 |
| Amylase Isoenzymes | AMYI | B | 5 days | 27 |
| Amyloidosis (Amyloid A Protein) | SAA | B | 5 days | 27 |
| Anaemia Profile | ANAE | A A B | 2 days | 36,39 |
| Anafranil (Clomipramine) | CHLO | A | 7 days | 130 |
| ANCA (Anti-Neutrophil Cytoplasmic Abs) | ANCA | B | 2 days | 77 |
| Andropause Profile | ANDP | B B | 8 hours | 49,54 |
| Androstanediolglucoronide | ANDG | B | 3 weeks | 27 |
| Androstenedione | ANDR | B (Frozen) | 4 days | 49 |
| Angiotensin II | ANG2 | A (Frozen) | 2 weeks | 27 |
| Angiotensin Converting Enzyme | ACE | B | 4 hours | 27 |
| Angiotensin Converting Enzyme – CSF | ACEF | CSF (Frozen) | 2 weeks | 27 |
| Antenatal Profile | ANTE | A A[33] B B B G | 3 days | 36,39 |
| Anti-Actin Antibodies | AAA | B | 5 days | 77 |
| Anti-Basal Ganglia Antibodies | ABGA | B | 3 weeks | 77 |
| Anti-CCP Antibodies (RF) | CCP | B | 2 days | 77 |
| Anti-Liver Cytosol Antibodies | ALCA | B | 5 days | 77 |
| Anti-MOG [Myelin Oligodendrocyte Glycoprotein] Antibodies | AMOG | B | 3 weeks | 77 |
| Anti-MUSK Antibodies | MUSK | B | 2 weeks | 77 |
| Anti-Phosphatidylserine Antibodies | PHTS | B | 5 days | 77 |
| Anti-Phospholipase A2 Receptor | AA2R | B | 3 weeks | 77 |
| Anti-Ri Antibodies | RIAB | B | 3 days | 77 |
| Anti-SLA (Soluble Liver Antigen) Abs | LSA | B | 10 days | 77 |
| Anti-Xa Apixaban monitoring | APIX | C (Frozen)* | 3 days | 37 |
| Anti-Xa Fondapariux monitoring | FOND | C (Frozen)* | 3 days | 37 |
| Anti-Xa- LMWH monitoring | LMWX | C (Frozen)* | 3 days | 37 |
| Anti-Xa- Rivaroxaban monitoring | RIVA | C (Frozen)* | 3 days | 37 |
| Antidiuretic Hormone | ADH | A A (Plasma Frozen)[4] | 10 days | 49 |
| Antimony (Urine) | ANTI | RU[30] | 10 days | 27 |
| Antimullerian Hormone (AMH Plus) | AMH | B | 4 hours | 27, 49, 54 |
| Antinuclear Antibodies (titre & pattern) | ANAB | B | 2 days | 77 |
| Antistaphylolysin Titre (SGOT) | ASTT | B | 3 days | 77 |
| Antistreptolysin Titre/ASOT | ASLT | B | 2 days | 77 |
| Antisulfatide Antibodies | ASA | B | 5 weeks | 77 |
| Antithrombin III | A111 | C (Frozen)[4,9,18] | 3 days | 37 |
| AP50 Alternative Hemolytic Complement | AP50 | B (Frozen) | 2 weeks | 27 |
| Apolipoprotein A1 | APOA | B | 3 days | 27 |
| Apolipoprotein B | APOB | B | 3 days | 27 |
| Apolipoprotein C | APOC | B | 3 months | 27 |
| Apolipoprotein E (12 hours fasting) | APOE | B (fasting) | 5 days | 27 |



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# Alphabetical test index

| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| **Apolipoprotein E genotype** – E2, E3, E4 | APEG | A [9] | 5 days | 108 |
| **Apple Components** | ZZ36 | B | 2 days | 141 |
| **APTT/KCCT** | KCCT | C [18] | 4 hours | 36 |
| **Aquaporin 4 Antibodies (Neuromyelitis Optica)** | AQUA | B | 2 weeks | 77 |
| **Arbovirus Antibodies/Abs** | ARBO | B [9,14] | 3 weeks | 96 |
| **Array CGH (Comparative Genomic Hybridisation)** | CGH | **CVS/AF/** A H [9] | 10 days | 108 |
| **Arsenic (Blood)** | ARS | A or H | 5 days | 28,155 |
| **Arsenic (Urine)** | ARSE | **RU** [30] | 5 days | 28,156 |
| **Arylsulphatase A** | ARYL | H [5,6] | 8 weeks | 28 |
| **Ascariasis Serology** | ASC | B | 5 days | 77 |
| **Ashkenazi Jewish Carrier Screen** | ASHJ | A [9] | 4 weeks | 108, 115, 123, 128 |
| **Aspartate Transaminase (AST) (SGOT)** | AST | B | 4 hours | 28 |
| **Aspergillus Components** | ZZ2 | B | 2 days | 141 |
| **Aspergillus Precipitins** | ASPP | B | 5 days | 40 |
| **Atypical Antibody Screen** (handwritten tube label) | AASC | A [22,33] | 2 days | 36 |
| **Atypical Pneumonia Screen** | APS | B | 2 days | 96,98 |
| **Autoantibody Profile I** | AUTO | B | 2 days | 77,85 |
| **Autoantibody Profile II** | ENDO | B | 2 days | 77,85 |
| **Avian Precipitins (11 Species)** | AVIA | B | 5 days | 77 |
| **Azoospermia** – karyotype + cystic fibrosis screen + polyT(5T) + Y deletions | GRP | A H [9] | 10-15 days | 108 |
| **Babesia Antibodies** | BABE | B | 3 weeks | 77 |
| **Bancroftia/Oncerciasis/Filarial Antibodies** | TFIF | B [14] | 2 weeks | 96 |
| **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 | 108 |
| **Becker Muscular Dystrophy** – deletions/duplications | DND | A [9] | 10 days | 108 |
| **Behcet's Disease** – HLA Tissue Typing B*51 | B51 | A [9] | 10 days | 108 |
| **Bence-Jones Protein** | RBJP | 1 x 30mls (**RU**) | 5 days | 28 |
| **Benzene** | BENZ | **J** [1,6] | 3 days | 156 |
| **Beta 2 Glycoprotein 1 Abs** | B2GP | B | 5 days | 77 |
| **Beta 2 Microglobulin (Serum)** | B2MG | B | 2 days | 28, 156 |
| **Beta 2 Microglobulin (Urine)** | UB2M | **RU** | 3 days | 28, 156 |
| **Beta Carotene** | CARO | B | 5 days | 144 |
| **Beta D Glucan** | XBDG | B | 3 days | 40 |
| **Beta HCG (Oncology)** | HCGQ | B | 4 hours | 99 |
| **Beta HCG (Quantitative)** | QHCG | B | 4 hours | 49 |
| **Beta-Glucuronidase (Sly Disease)** | BGLU | H H [9,4] | 8 weeks | 28 |
| **Bicarbonate** | HCO3 | B | 4 hours | 28 |
| **Bile Acids** – Serum | BILE | B | 4 hours | 28 |
| **Bilharzia (Schistosome) Antibody Screen** | BILH | B [14] | 10 days | 86 |
| **Bilharzia (Schistosome) Antigen** | SHAG | B | 15 days | 86 |

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| | TEST | CODE | SAMPLE REQS | TAT | PAGE |
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| | **Bilharzia (Urine)** | USCH | **RU**[14] | 2 days | 86 |
| | **Bilirubin (Direct/Indirect)** | DBIL | B | 4 hours | 28 |
| | **Bilirubin (Total)** | BILI | B | 4 hours | 28 |
| | **Bilirubin (Urine)** | UBIL | **RU** | 1 day | 28 |
| | **Biotin** | BIOS | B | 1 week | 144 |
| | **Biotinidase** | BIOT | H (Frozen plasma)[4] | 3 weeks | 28 |
| | **Birch Components** | ZZ3 | B | 2 days | 141 |
| | **Bismuth** | BISM | B | 5 days | 28 |
| | **BK Polyoma Virus by PCR** | BKPV | A / B / **RU** | 5 days | 96 |
| NEW | **Bleeding and platelet disorders NGS Panel (known familial mutations)** – Contact lab | GENE | A A | 6 weeks | 108 |
| NEW | **Bleeding and platelet disorders NGS Panel (unknown familial mutations)** – Contact lab | GENE | A A | 12 weeks | 108 |
| | **Blood Culture** | BCUL | 2 x **BC**[4] | 6 days + | 40 |
| | **Blood Film Examination** | FILM | A | 1 day | 36 |
| | **Blood Group** | ABO | A[22,33] | 2 days | 36 |
| | **BNP (NT-pro BNP)** | BNP | B | 4 hours | 28,49 |
| | **Bone Alkaline Phosphatase** | BALP | B (Frozen) | 2 weeks | 28 |
| | **Bone Marrow (Aspirate)** | BMAS | **J**[1] | 14 days | 38 |
| | **Bone Marrow (Trephine Biopsy)** | BMI | **J**[1] | 3 days | 38 |
| | **Bone Screen** | BONE | B **CU** | 4 hours | 28, 35 |
| | **Bone Screen (Bloods only)** | BON2 | B | 4 hours | 28, 35 |
| | **Borrelia Antibodies (Lyme Disease) IgG, IgM** | BORR | B[9,14] | 2 days | 77 ,86 |
| | **Borrelia Antibodies (Lyme Disease) IgM** | BORM | B | 2 days | 77 ,86 |
| | **Borrelia Confirmation (Immunoblot)** | BORC | B[9,14] | 10 days | 77 ,86 |
| | **BRAF V600E mutation by PCR for Hairy Cell Leukaemia** | GENE | **Bone Marrow** / A | 5 days | 108 |
| | **Brazil Components** | ZZ4 | B | 2 days | 141 |
| | **Breast Cancer** – BRCA1 + BRCA2 only gene sequencing + deletions/duplications | GENE | A | 4 weeks | 109 |
| | **Breast Cancer NGS Panel** – full sequencing across 14 genes + deletions/duplications. Requires patient informed consent | GENE | A A[9,11] | 4 weeks | 99, 109 |
| | **Bromide** | BROM | B | 3 days | 156 |
| | **Brucella Serology** | BRUC | B[9] | 2-3 weeks | 77 |
| | **BUN (Blood Urea Nitrogen)** | BUN | B | 4 hours | 28 |
| | **C-KIT D816V mutation by PCR for Mastocytosis** | GENE | **Bone Marrow** / A | 5 days | 109 |
| | **C Peptide** | CPEP | B | 3 days | 49 |
| | **C Reactive Protein** | CRP | B | 4 hours | 28 |
| | **C Reactive Protein (High Sensitivity)** | HCRP | B | 4 hours | 28 |
| | **C1 Esterase Inhibitor** | C1EI | B | 5 days | 77 |
| | **C1 Esterase: Function & Total** | FC1E | C C (Plasma Frozen)[4,18] | 10 days | 28 |
| | **C1q Binding Immune Complex** | IMCP | B | 5 days | 28 |
| | **C3 Complement** | C3 | B | 4 hours | 77 |



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|---|---|---|---|---|
| C3/C4 Complement | COMP | B | 4 hours | 77 |
| C4 Complement | C4 | B | 4 hours | 77 |
| CA 15-3 | C153 | B | 4 hours | 99 |
| CA 19-9 | C199 | B | 4 hours | 99 |
| CA 50 | CA50 | B | 5 days | 99 |
| CA 72-4 | C724 | B | 5 days | 99 |
| CA 125 | C125 | B | 4 hours | 99 |
| Cadmium (Blood) | CADM | A or H | 5 days | 28,155 |
| Cadmium (Urine) | URCD | RU [30] | 5 days | 28,156 |
| Calcitonin | CATO | B (Frozen) [4] | 1 day | 49 |
| Calcium | CA | B | 4 hours | 28 |
| Calcium (24 hour Urine) | UCA | PU | 4 hours | 28 |
| Calcium/Creatinine Ratio | CACR | RU B | 4 hours | 28 |
| Calprotectin | CALP | RF | 5 days | 77 |
| Calprotectin/Elastase Profile | CEP | RF | 5 days | 77,85 |
| Campylobacter Jejuni Antibodies | CJAB | B | 5 days | 77 |
| Candida Antibodies | CANA | B | 5 days | 77 |
| Candida Antigen | CCAG | B | 5 days | 77 |
| Cannabinoids (Urine) Screen | CANN | RU | 1 day | 153 |
| Carbamazepine (Tegretol) | CARB | B | 4 hours | 130 |
| Carbapenemase producing organism screen | MDR | STM (rectal) | 4-5 days ‡ | 40 |
| Carbohydrate Deficient Glycoprotein | CDG | B | 2 weeks | 28 |
| Carbohydrate Deficient Transferrin (CDT) | CDT | B [4] | 3 days | 28 |
| Carboxyhaemoglobin | CBHB | A | 1 week | 36 |
| Carcino Embryonic Antigen | CEA | B | 4 hours | 99 |
| Cardiac Enzymes (not chest pain) | CENZ | B | 4 hours | 28 |
| Cardiolipin Antibodies (IgG+IgM) | ACAB | B | 2 days | 77 |
| Cardiovascular Risk Profile 1 | PP10 | B B | 3 days | 28,35 |
| Cardiovascular Risk Profile 2 | PP11 | B B B C [34] | 3 days | 28,35 |
| Carnitine – Free & Total | CARN | H H (Frozen Plasma) | 10 days | 28 |
| Carotenes | CARO | B [13] | 5 days | 144 |
| Cartilage Antibodies | ACA | B | 5 days | 77 |
| Cashew Components | ZZ35 | B | 2 days | 141 |
| Cat Components | ZZ5 | B | 2 days | 141 |
| Cat Scratch Fever (Bartonella IgG+IgM) | CAT | B | 5 days | 96 |
| Catecholamines (Plasma) | CATE | A A (Plasma Frozen) [4] | 5 days | 49 |
| Catecholamines (Urine) | UCAT | PU [1] | 5 days | 49 |
| CCP Antibodies (RF) | CCP | B | 2 days | 77 |
| CD3/CD4/CD8 | LYSS | A [10] | 1 day | 38,94,96 |
| CD16 | CD16 | A [4] | 1 day | 38 |
| CD19 B Cells | CD19 | A [4] | 1 day | 38 |
| CD20 | CD20 | A [10] | 2 days | 38 |
| CD25 | CD25 | A [10] | 2 days | 38 |
| CD56 | CD56 | A [4] | 1 day | 38 |

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| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| **CD57** | CD57 | A | 1 day | 38 |
| **Celery Components** | ZZ6 | B | 2 days | 141 |
| **Centromere Autoantibodies** | CENT | B | 2 days | 77 |
| **Ceruloplasmin** | CERU | B | 1 day | 28,144 |
| **Cervical Cytology** | PAPT will include HPVH | **TPV** | 2-3 days | 162 |
| **CH50 (Classical pathway)** | CH50 | B (Frozen)[4] | 4 days | 77 |
| **Chagas Disease Serology (S.American Trypanosomiasis) T. Cruzi** | CHGA | B[9,14] | 10 days | 77 |
| **Chest Pain Profile** | CPP | B | STAT | 28, 35 |
| **Chikungunya Virus Abs** | CHIK | B[9,14] | 10 days | 96 |
| **Chlamydia (PCR swab)** | SPCR | **PCR** | 2 days | 65 |
| **Chlamydia (Thin Prep)** | TPCR | **TPV** | 2 days | 65,160 |
| **Chlamydia (Urine)** | CPCR | **FCRU** | 2 days | 65 |
| **Chlamydia Species Specific (MIF) Ab Screen** | CHAB | B | 2 days | 78,85 |
| **Chlamydia/Gonorrhoea (PCR Swab)** | SCG | **PCR** | 2 days | 65 |
| **Chlamydia/Gonorrhoea (Rectal)** | RSCG | **PCR** | 2 days | 65 |
| **Chlamydia/Gonorrhoea (Thin Prep)** | TCG | **TPV** | 5 days | 65,160 |
| **Chlamydia/Gonorrhoea (Throat)** | TSCG | **PCR** | 2 days | 65 |
| **Chlamydia/Gonorrhoea (Urine)** | CCG | **FCRU** | 2 days | 65 |
| **Chlamydia/Gonorrhoea/Trichomonas by PCR** | CCGT | **FCRU/PCR/TPV** | 2 days | 65 |
| **Chloride** | CL | B | 4 hours | 28 |
| **Cholesterol** | CHO | B | 4 hours | 28 |
| **Cholesterol (Familial Hypercholesterolaemia)** | GENE | A A[9] | 4 weeks | 28,112 |
| **Cholinesterase (Blood)** | CHRC | H | 5 days | 28,156 |
| **Cholinesterase (Serum/Pseudo)** | CHPS | B | 4 hours | 28, 156 |
| **Chromium (Blood)** | CHRO | A | 5 days | 28,155 |
| **Chromium (Urine)** | URCR | **RU**[30] | 10 days | 29,156 |
| **Chromogranin A** | CGA | B | 5 days | 29 |
| **Chromogranin A & B** | MTAB | **J**[1] | 3 weeks | 29 |
| **Chromosome Analysis (Amniocentesis)** – culture only | ACUL | **AF**[9] | 10-15 days | 109 |
| **Chromosome Analysis (Amniocentesis)** – rapid BOBs aneuploidy diagnosis for all chromosomes (5 days) + culture (10-15 days) | ABK | **AF**[9] | 5-15 days | 109 |
| **Chromosome Analysis (Amniocentesis)** – rapid PCR diagnosis for common aneuploidies (2 days) + culture (10-15 days) | APCC | **AF**[9] | 2-15 days | 109 |
| **Chromosome Analysis (Blood)** | KARY | H[9] | 8-18 days | 110 |
| **Chromosome Analysis (Chorionic Villus)** – rapid BOBs aneuploidy diagnosis for all chromosomes (5 days) + culture (10-15 days) | CBK | **CVS**[9] | 5-15 days | 110 |



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| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| **Chromosome Analysis (Chorionic Villus)** – rapid PCR diagnosis for common aneuploidies (2 days) + culture (10-15 days) | CVPC | **CVS** [1,9] | 2-15 days | 110 |
| **Chromosome Analysis (Chorionic Villus)** – culture only | CVSC | **CVS** [1,9] | 10-15 days | 110 |
| **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 | 110 |
| **Chromosome Analysis (Products of Conception)** – reflex to BOBs testing if culture fails to grow | PROC | **Placental Sample** [1,9] | 20-25 days | 110 |
| **Chromosome Analysis (Solid Tissue)** | PROC | **Fetal tissue** [1,9] | 4-5 weeks | 110 |
| **Chromosome Analysis (Stem Cells)** | STEM/ SUSP | **Culture/Fixed cells** | Contact lab | 110 |
| **Chronic Fatigue Syndrome Profile** | VIP1 | A + B [10] | 5 days | 78, 85 |
| **Citrate (Blood)** | CITR | B | 5 days | 29 |
| **Citrate (Urine)** | UCIT | **CU** (Frozen) | 5 days | 29 |
| **CK (MB Fraction)** | CKMB | B | 4 hours | 29 |
| **CK Isoenzymes** | CKIE | B | 5 days | 29 |
| **Clobazam** | CLOB | A | 5 days | 130 |
| **Clomipramine (Anafranil)** | CHLO | A | 7 days | 130 |
| **Clonazepam** | CLON | A | 7 days | 130 |
| **Clostridium Difficile Toxin by PCR** | CLOS | **RF*** | 2 days | 40 |
| **CMV DNA (by PCR)** | CMVP | A | 5 days | 96 |
| **CMV DNA by PCR (Semen)** | SCVM | **Semen** | 7 days | 96 |
| **CMV DNA by PCR (Urine)** | CMVU | **RU** | 5 days | 96 |
| **CMV Resistance** | CMVR | A A (2 x 6mls) | 21 days | 96 |
| **Coagulation Profile 1** | CLPF | C [18] | 4 hours | 36, 39 |
| **Coagulation Profile 2** | CLOT | A C [18] | 4 hours | 36, 39 |
| **Cobalt (Blood)** | COB | A | 5 days | 29 |
| **Cobalt (Serum)** | COBB | B | 5 days | 29, 155 |
| **Cobalt (Urine)** | COBA | **RU** [30] | 5 days | 29, 156 |
| **Cocaine (Urine) Screen** | UCOC | **RU** | 1 day | 153 |
| **Coeliac Disease – HLA DQ2/DQ8 Genotype** | Q2Q8 | A [9] | 10 days | 78, 82, 110 |
| **Coeliac/Gluten Profile 2** | GSA2 | A B | 10 days | 78, 82 |
| **Coeliac/Gluten Sensitivity Profile** | GSA | B | 2 days | 78, 82 |
| **Coenzyme Q10** | CQ10 | B | 2 weeks | 29 |
| **Cold Agglutinin** | CAGG | **J** [1] | 5 days | 29 |
| **Collagen (Type I, II, IV) Antibodies** | COAB | B | 10 days | 29 |
| **Collagen Type 1 Cross-Linked N-Telopeptide – NTX** | NTX | **2nd EMU** | 2 weeks | 29 |
| **Colloid Antigen-2 Antibodies** | CA2A | B | 2 weeks | 78 |
| **Colorectal Cancer NGS Panel** – full sequencing across 18 genes + deletions/duplications. Requires patient informed consent | GENE | A A [9,11] | 4 weeks | 110 |
| **Comparative Genomic Hybridisation (Array CGH)** | CGH | **CVS/AF/** A H [9] | 10 days | 110 |

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| | TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|---|
| | **Complement C1q** | C1Q | B | 5 days | 29 |
| | **Complement C2** | C2 | B | 10 days | 29 |
| | **Complement C5** | C5A | B | 2 weeks | 29 |
| | **Complement C6** | C6 | B (Frozen)* | 5 weeks | 29 |
| | **Complement C7** | C7 | B (Frozen)* | 5 weeks | 29 |
| | **Complement C8** | C8 | B (Frozen)* | 5 weeks | 29 |
| | **Complement C9** | C9 | B (Frozen)* | 5 weeks | 29 |
| | **Complement Factor H** | FACH | B | 3 weeks | 29 |
| | **Complex PSA (Prostate Specific Ag)** | CPSA | B | 3 days | 99 |
| | **Congenital Absence of Vas Deferens** – karyotype + cystic fibrosis screen + polyT(5T) + Y deletions | GRP | A H [9] | 10-15 days | 110 |
| | **Coombs (Direct Antiglobulin Test)** | COOM | A | 2 days | 38 |
| | **Copper (Serum)** | COPP | B | 5 days | 29,144,155 |
| | **Copper (Urine)** | URCU | **CU** | 5 days | 29,156 |
| | **Cortisol** | CORT | B | 4 hours | 49 |
| | **Cortisol (Urine)** | UCOR | **CU** | 5 days | 49 |
| | **Cortisol Binding Globulin** | CBG | B (Frozen) | 1 month | 29 |
| | **Cotinine (Saliva)** | SCOT | **Saliva Kit** [1] | 1-2 weeks | 156 |
| | **Cotinine (Serum)** | COT | B | 4 days | 78 |
| | **Cotinine (Urine)** | COTT | **RU** | 2 days | 78 |
| NEW | **COVID-19 (SARS-CoV-2) Abbott IgG Antibody** | GCOV | **SST / Serum** B* (Venous) | 24 hours | 96 |
| NEW | **COVID-19 (SARS-CoV-2) RNA by PCR** | NCOV | **PCR Swab** (nasal/pharyngeal) | 48 hours | 96 |
| NEW | **COVID-19 (SARS-CoV-2) Roche Elecsys Anti-SARS-CoV-2 Total Antibody** | TCOV | **SST / Serum** B** (Venous and Capillary) | 24 hours | 96 |
| | **Cow's Milk Components** | ZZ7 | B | 2 days | 141 |
| | **Coxsackie Antibodies (IgM)** | COXM | B | 10 days | 96 |
| | **Creatine Kinase (CK, CPK)** | CKNA | B | 4 hours | 29 |
| | **Creatinine** | CREA | B | 4 hours | 29 |
| | **Creatinine (Urine)** | UCR | **CU** | 4 hours | 29 |
| | **Creatinine Clearance** | CRCL | B **CU** | 4 hours | 29 |
| | **Cri du Chat Syndrome** – BOBs (5 days) + karyotype (15 days) | PBOB, KARY | **CVS / AF /** A H [9] | 5-15 days | 110 |
| | **Cri du Chat Syndrome** – BOBs only | PBOB | **CVS / AF /** A [9] | 5 days | 110 |
| | **Crosslaps (Serum DPD)** | SDPD | B (Freeze within 24 hours) | 4 days | 29 |
| | **Cryoglobulins** | CRYO | **J** [6] | 10 days | 78 |
| | **Cryptococcal Antigen** | CRYC | **Serum** or **CSF** | 1 day | 40 |
| | **Cryptosporidium** | CRPO | **RF** | 2 days | 40 |
| | **Cryptosporidium Detection by PCR** | CRPA | **RF** | 2 days | 86 |
| | **CSF for Microscopy and Culture** | CSF | **CSF** | 1-3 days | 40 |
| | **CSF Screen by PCR** | VPCR | **CSF** | 2 days | 96,98 |
| | **CT/GC/Trichomonas/Mgen (PCR Swab)** | SGTM | **PCR Swab** | 2 days | 65,75 |
| | **CT/GC/Trichomonas/Mgen (Urine)** | CGTM | **FCRU** | 2 days | 65,75 |
| | **Culture (Any site)** | CULT | | up to 5 days | 40 |



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|---|---|---|---|---|
| **CVS PCR for common aneuploidies (2 days) + culture (10-15 days)** | CVPC | **CVS** [9] | 2-15 days | 110 |
| **CVSBOBs** – rapid BOBs aneuploidy diagnosis for all chromosomes (3-5 days) + culture (10-15 days) | CBK | **CVS** [9] | 5-15 days | 111 |
| **CVSBOBs only** – rapid aneuploidy diagnosis for all chromosomes + common microdeletion syndromes | CBOB | **CVS** [9] | 5 days | 111 |
| **Cyclic Amp (Urine)** | CAMP | **CU** (Frozen) | 5 days | 29 |
| **Cyclosporin (Monoclonal)** | CYCL | A | 1 day | 29 |
| **Cyfra 21-1** | CY21 | B | 4 days | 99 |
| **CYP450 2D6 Genotyping** | TGEN | A [9] | 10 days | 111 |
| **Cystatin C** | CYCC | B | 5 days | 29 |
| **Cystic Fibrosis (139 common mutations)** – reflex to Poly T when required | CFS | A [9] | 5 days | 111 |
| **Cystine – Quantitative (Beta-CTX)** | QCYS | **PU** | 5 days | 29 |
| **Cytomegalovirus (CMV-DNA) Amnio** | CMVD | **AF** | 5 days | 96 |
| **Cytomegalovirus (IgG/IgM) Antibodies** | CMV | B | 4 hours | 96 |
| **Cytomegalovirus (PCR) Urine** | CMVU | **RU** | 5 days | 96 |
| **Cytomegalovirus Avidity** | CMAV | B | 10 days | 96 |
| **Cytomegalovirus DNA (PCR)** | CMVP | A | 5 days | 96 |
| **Cytomegalovirus IgM** | CMVM | B | 4 hours | 96 |
| **D-Dimers (Fibrinogen Degradation Products)** | DDIT | C [4] | 4 hours | 36 |
| **Dengue Fever PCR** | DPCR | A or B [9,14] | 2 weeks | 96 |
| **Dengue Virus Serology** | DENG | B [9,14] | 5 days | 86 |
| **Deoxypyridinoline (DPD) – Serum** | SDPD | B (Freeze within 24 hours) | 4 days | 29 |
| **Deoxypyridinoline (DPD) – Urine** | DPD | **EMU** | 4 days | 29 |
| **DHEA** | DHEX | B | 7-10 days | 49 |
| **DHEA – Urine (Dehydroepiandrosterone)** | UDHE | **CU** | 3 weeks | 49 |
| **DHEA Sulphate** | DHEA | B | 4 hours | 49 |
| **Diabetic Profile 1** | DIAB | A G | 8 hours | 29,35 |
| **Diabetic Profile 2** | DIA2 | A G **RU** | 2 days | 29,35 |
| **Diamine Oxidase Activity** | DIAM | B | 2 weeks | 78 |
| **Diazepam (Valium)** | DIAZ | A | 7 days | 130 |
| **DiGeorge Syndrome (22q11 & 10p14 deletion)** – BOBs (5 days) + karyotype (15 days) | DGB, KARY | **CVS/AF/** A H [9] | 5-15 days | 111 |
| **DiGeorge Syndrome (22q11 & 10p14)** – BOBs only | DGB | **CVS/AF/** A [9] | 5 days | 111 |
| **Digoxin** | DIGO | B | 4 hours | 130 |
| **Dihydrotestosterone** | DHT | B B | 7 days | 49 |
| **Diphtheria Antibodies** | DIPH | B | 5 days | 78 |
| **DL1-DL12 Screening Profiles** | | | | 22-23 |
| **DNA (Double Stranded) Antibodies IgG** | DNAA | B | 2 days | 78 |
| **DNA (Single Stranded) Antibodies** | DNAS | B | 5 days | 78 |

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|---|---|---|---|---|
| **DNA Extraction & Storage** – 3 years (longer upon request) | XDNA | A [9] | 20 days | 111 |
| **DNA Identity Profile** – 15 STR markers | DNAF | A [9] | 10 days | 111 |
| **Dog Components** | ZZ8 | B | 2 days | 141 |
| **Down Syndrome Risk Bloods only (Risk to be calculated by clinician)** | HCGF/ PAPA | B | 4 hours | 49 |
| **Down Syndrome Risk Profile (2nd trimester) Quad** | DRP | B DRP form [7,8] | 2 days | 49 |
| **Down Syndrome Risk Profile with risk calculation first trimester** | DRP | B DRP form + image of scan [7,8] | 2 days | 49 |
| **Doxepin Level (Sinequan)** | DOXE | A | 10 days | 156 |
| **Drugs of Abuse From Blood** | DOAP | B | 5 days | 153-154 |
| **Drugs of Abuse Profile – Random Urine Sample/ No Chain of Custody** | DOA | **RU** | 2 days (5 days with LCMS/MS confirmation) | 153-154 |
| **Drugs of Abuse Profile – Random Urine Sample/No Chain of Custody Plus Alcohol** | DOA3 | **RU** | 2 days (5 days with LCMS/MS confirmation) | 153-154 |
| **Drugs of Abuse Profile – With Chain of Custody** | DOAL | **RU/CoC Collection Containers** [1,2] | 2 days (5 days with LCMS/MS confirmation) | 153-154 |
| **Drugs of Abuse Profile – Without Chain of Custody** | DOAN | **RU** [2] | 2 days (5 days with LCMS/MS confirmation) | 153-154 |
| **Duchenne Muscular Dystrophy** – deletions/duplications only | DMD | A [9] | 10 days | 111 |
| **DVT/Pre-travel Screen** | DVT1 | A A B [9] | 5 days | 36, 39, 86-87, 111,128 |
| **Early CDT-Lung** | CDTL | B | 7 days | 99 |
| **Early Detection Screen PCR/NAAT** | STDX | A 10mls or 2 x 4mls (Vacutainer only) | 3 days | 65,75 |
| **Early Detection Screen PCR/NAAT with Syphilis** | STXX | B A 10mls or 2 x 4mls | 3 days | 65,75 |
| **Echinococcus (Hydatid) Antibodies** | EFAT | B [9,14] | 5 days | 78,86 |
| **Eczema Provoking Profile** | ALEC | B | 2 days | 134 |
| **Egg Components** | ZZ9 | B | 2 days | 141 |
| **Ehlers-Danlos Syndrome/Aneurysm/Connective Tissue Disorders NGS Panel** – full sequencing across 46 genes + deletions/duplications | GENE | A A [9] | 5 weeks | 111 |
| **Ehrlichiosis Antibodies** | EHRL | B [9,14] | 10 days | 78 |
| **Elastase (Faecal)** | ELAS | **RF** | 5 days | 78 |
| **Elastase/Calprotectin Profile** | CEP | **RF** | 5 days | 78,85 |
| **Electrolytes** | ELEC | B | 4 hours | 29 |
| **Electrolytes (Urine)** | UELE | **CU** | 4 hours | 29 |
| **ELF/Enhanced Liver Fibrosis** | ELF | B | 5-7 days | 29 |
| **Endometrial Biopsy Immune Profiling** | 23RF | **J** (Contact Referrals) | 2 weeks | 52 |
| **Endomysial Antibodies (IgA)** | AEAB | B | 2 days | 78 |



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| **Enteric Organism Rapid Detection** | EORD | **RF** | 2 days | 86-87 |
| **Eosinophil Cationic Protein** | ECP | B | 7 days | 30 |
| **Epanutin (Phenytoin)** | PHEN | B | 4 hours | 130 |
| **Epstein-Barr Virus Antibodies IgG/IgM** | EBVA | B | 2 days | 96 |
| **Epstein-Barr Virus PCR** | EBVQ | A | 5 days | 96 |
| **Erectile Dysfunction Profile** | IMPO | A B B G | 3 days | 49, 54 |
| **Erythropoietin** | ERY | B | 4 days | 38,130 |
| **ESR** | ESR | A | 4 hours | 36 |
| **Essential Fatty Acid Profile (Red Cell)** | EFAR | A[4] | 10 days | 144 |
| **Ethosuximide** | ETHO | A | 7 days | 130 |
| **Extractable Nuclear Antibodies (nRNP, Sm, Ro, La, Jo1, Scl70) CENP-B** | ENA | B | 2 days | 78 |
| **Factor II Assay** | FAC2 | C (Frozen)[9,18] | 5 days | 37 |
| **Factor II Prothrombin** – G20210A mutation | FX2 | A[9] | 5 days | 112 |
| **Factor V Assay** | FAC5 | C (Frozen)[9,18] | 5 days | 37 |
| **Factor V Leiden** – G1691A mutation | FX5 | A[9] | 5 days | 112 |
| **Factor VII Assay** | FAC7 | C (Frozen)[9,18] | 5 days | 37 |
| **Factor VIII Assay** | FAC8 | C (Frozen)[9,18] | 5 days | 37 |
| **Factor VIII Inhibiting Antibody** | F8IA | C C[18] | 2 weeks | 37 |
| **Factor IX Assay** | F1X | C (Frozen)[9,18] | 5 days | 37 |
| **Factor IX Inhibiting Antibody** | F9IA | C C[18] | 2 weeks | 37 |
| **Factor X Assay** | FX | C (Frozen)[9,18] | 5 days | 37 |
| **Factor XI Assay** | FX1 | C (Frozen)[9,18] | 5 days | 37 |
| **Factor XII Assay** | FX11 | C (Frozen)[9,18] | 5 days | 37 |
| **Factor XIII Assay** | FA13 | C (Frozen)[9,18] | 5 days | 37 |
| **Faecal Elastase** | ELAS | **RF** | 5 days | 78 |
| **Faecal Fat (1 Day Collection)** | TFFA | **LF**[6] | 5 days | 30 |
| **Faecal Fat (3 day)** | FFAT | **LF**[6] | 5 days | 30 |
| **Faecal Lactoferrin** | FLAC | **RF** | 5 days | 30 |
| **Faecal Occult Blood/FOB (immunochemical/FIT)** | QFIT | **QFIT** | 1 day | 40 |
| **Faecal Sugar Chromatography** | FCRO | **RF** (Frozen) | 3 weeks | 30 |
| **Faecal Urobilinogen** | FURO | **RF** | 5 days | 30 |
| **Familial Hypercholesterolaemia** – LDLR + APOB + PCSK9 + LDLRAP1 screening | GENE | A A[9] | 4 weeks | 112 |
| **Farmers Lung Precipitins** | FARM | B | 5 days | 78 |
| **Fasciola Hepatica Antibodies (Liver Fluke)** | FASC | B | 2 weeks | 78 |
| **FASTest Sexual Health Screening Tests** | | | | 69 |
| **Fat Globules in Faeces** | FGLO | **RF** | 1 week | 30 |
| **Female Hormone Profile** | FIP | B | 4 hours | 49, 54 |
| **Ferritin** | FERR | B | 4 hours | 30 |
| **Fibrinogen** | FIB | C[4,18] | 4 hours | 36 |
| **Fibrotest (Liver Fibrosis)** | FIBT | B | 2 weeks | 30 |
| **Filaria (Lymphatic and Non-Lymphatic) Antibodies** | FIFA | B[9,14] | 10 days | 86 |

# Alphabetical test index

| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| **First Trimester Antenatal Screen (Risk to be calculated by requesting clinician)** | HCGF/ PAPA | B | 4 hours | 49,55 |
| **Fish Components** | ZZ10 | B | 2 days | 141 |
| **FK506 (Tacrolimus/Prograf)** | FK5 | A[4] | 1-2 days | 130 |
| **Flecainide (Tambocor)** | FLEC | A | 5 days | 130 |
| **Fluid Culture** | FLUD | **SC** | 2-7 days | 40 |
| **Fluid Cytology** | CATF | **Fluid**[4] | 3 days | 165 |
| **Fluid for Crystals** | FLU2 | **SC** | 1 day | 40 |
| **Fluoride (Urine)** | UFL | **RU** | 5 days | 30 |
| **Fluoxetine (Prozac)** | PROZ | A[4] | 5 days | 130 |
| **Folate (Red Cell)** | RBCF | A | 2 days | 30,144 |
| **Folate (Serum)** | FOLA | B | 1 day | 30 |
| **Fragile X Syndrome screen** – FMR1 repeat analysis PCR (3 weeks) + Southern Blot (8 weeks) if required | GENE | AAA[9] | 3-8 weeks | 113 |
| **Free Cortisol (Urine)** | UCOR | **CU** | 5 days | 49 |
| **Free Fatty Acids** | FFA | B (Frozen)[1] | 10 days | 30 |
| **Free T3** | FT3 | B | 4 hours | 49 |
| **Free T4** | FT4 | B | 4 hours | 49 |
| **Fructosamine** | FRUC | B | 1 day | 30 |
| **Fructose – Plasma** | FRU | G[7] (Frozen) | 5 days | 30 |
| **FSH** | FSH | B | 4 hours | 49 |
| **Full Blood Count** | FBC | A | 4 hours | 36 |
| **Fungal ID + Sens** | FUID | **Fungal sample/STM** | 14 days | 40 |
| **G6PD** | G6PD | A | 3 days | 38 |
| **Gabapentin** | GABA | B[4] | 5 days | 130 |
| **Galactomanan (Aspergillus Antigen)** | SGAL | B | 2 weeks | 40 |
| **Galactose-1-Phosphate Uridyltransferase** | GAL1 | H[5,6] | 2 weeks | 30 |
| **Galactosidase – Alpha*** | GALA | **J*** | 6 weeks | 30 |
| **Gall Stone Analysis** | RSTA | **STONE** | 10 days | 30 |
| **Gamma GT** | GGT | B | 4 hours | 30 |
| **Ganglionic Acetylcholine Receptor Antibodies** | GACA | B | 1 month | 78 |
| **Ganglioside GM1, GD1B, GQ1B Abs** | GANG | B | 5 days | 78 |
| **Gardnerella vaginalis by PCR** | GVPC | **FCRU/PCR/TPV** | 2 days | 65,160 |
| **Gastric Parietal Autoantibodies** | GASP | B | 2 days | 78 |
| **Gastrin** | GAST | B (Frozen) | 5 days | 30 |
| **Genetic Reproductive Profile (Male)** | GRP | AH[9] | 10-15 days | 113,116,128 |
| **GENETICS: TDL Genetics** – see pages 101-128 | | | | 101-128 |
| **Gentamicin Assay** | GENT | B[4] | 4 hours | 129 |
| **Giardia Serology** | GIAR | B | 5 days | 78 |
| **Gliadin Antibodies (IgG) (deamidated)** | AGAB | B | 2 days | 78 |
| **Globulin** | GLOB | B | 4 hours | 30 |
| **Glomerular Basement Membrane Abs** | AGBM | B | 2 days | 78 |
| **Glucagon** | GLUG | **J**[1] | 10 days | 30 |



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# Alphabetical test index

| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| **Glucose** | RBG | G | 4 hours | 30 |
| **Glucose Challenge Test / Mini-GTT** | RBGM | G | 1 day | 129 |
| **Glucose Tolerance Test (Short)** | GTTS | 2x G 2x **RU** | 1 day | 129 |
| **Glucose Tolerance Test (Extended Plus)** | GTTX | 7x G 7x **RU** | 1 day | 129 |
| **Glucose Tolerance Test (Extended)** | GTTE | 5x G 5x **RU** | 1 day | 129 |
| **Glucose Tolerance with Growth Hormone** | GTT + GHDF | 3x B[35] 3x G 3x **RU** | 1 day | 129 |
| **Glucose Tolerance with Insulin** | GTTI | 3x B 3x G 3x **RU** | 1 day | 129 |
| **Glucose Tolerance Test / OGTT** | GTT | 3x G 3x **RU** | 1 day | 129 |
| **Glutamic Acid Decarboxylase Antibodies (GAD 65)** | GAD | B | 5 days | 78 |
| **Glutathione (Red Cell)** | GLUR | H[5] | 5 days | 144 |
| **Glutathione Peroxidase** | GLPX | H | 5 days | 144 |
| **Gluten Allergy Profile** | GLUT | A B B | 10 days | 78, 82, 134 |
| **Gluten Sensitivity Evaluation** | GSA | B | 2 days | 78 |
| **Gluten/Coeliac Profile 2** | GSA2 | A B | 10 days | 78 |
| **Glycan Determinants** | ZZ27 | B | 2 days | 141 |
| **Gonorrhoea (Culture)** | GONN | **CS** | 2-3 days | 40, 65 |
| **Gonorrhoea (PCR swab)** | SGON | **PCR** | 2 days | 65 |
| **Gonorrhoea (Thin Prep)** | TGON | **TPV** | 2 days | 65 |
| **Gonorrhoea (Urine)** | CGON | **FCRU** | 2 days | 65 |
| **Granulocyte Immunology** | GRIM | A A | 2 weeks | 78 |
| **Group B Strep** | GBSX | 2 x **STM** | 3-4 days | 40 |
| **Growth Hormone (Fasting)** | GH | B[7,35] | 4 hours | 49 |
| **Gut Hormone Profile** | GUTP | A A (Frozen within 15 minutes)[41] | 3 weeks | 49 |
| **H. pylori Antibodies (IgG)** | HBPA | B | 2 days | 78 |
| **H. pylori Antigen (Breath)** | HBQT | **J** | 5 days | 78 |
| **H. pylori Antigen (Stool)** | HBAG | **RF** | 3 days | 78 |
| **H. pylori Culture** | HPCU | **J** | 3 weeks | 40 |
| **Haematology Profile** | PP3 | A | 4 hours | 36, 39 |
| **Haemochromatosis** – HFE common mutations C282Y + H63D | HMD | A[9] | 3 days | 30, 113 |
| **Haemoglobin** | HB | A | 4 hours | 36 |
| **Haemoglobin Electrophoresis** | HBEL | A | 4 days | 38 |
| **Haemophilus B Influenzae Antibodies** | HINF | B | 7 days | 78 |
| **Haemophilus ducreyi by PCR** | DUCR | **PCR** | 7 days | 65 |
| **Haemosiderin (Urine)** | HSID | **EMU** | 2 weeks | 30 |
| **Hams Test for PNH (CD59)** | HAMS | **J**[34,5] | 5 days | 38 |
| **Hantavirus Serology** | HANV | B[9] | 10 days | 96 |
| **Haptoglobin** | HAPT | B | 5 days | 30 |
| **Harmony® Prenatal Test (Non-Invasive Prenatal Testing)** – common aneuploidy screening from maternal blood | NIPT | **J / Special tubes**[1] | 3-5 days | 113 |

# Alphabetical test index

| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| **Harmony® Prenatal Test (Non-Invasive Prenatal Testing)** – common aneuploidy screening from maternal blood including 22q11.2 del | NIPQ | **J/Special tubes**[1] | 3-5 days | 113 |
| **Hazelnut Components** | ZZ11 | B | 2 days | 141 |
| **HbA1c** | GHB | A | 6 hours | 30 |
| **HDL Cholesterol** | HDL | B | 4 hours | 30 |
| **HDL2 & HDL3 Fractions** | HDLF | B | 3 weeks | 30 |
| **HE4 + ROMA (Earlier Detection of Ovarian Tumour)** | HE4 | B | 1 day | 99 |
| **Hepatitis (Acute) Screen** | AHSC | B | 4 hours | 90 |
| **Hepatitis A (IgM)** | HAVM | B | 4 hours | 90 |
| **Hepatitis A Immunity (IgG/IgM)** | HAIM | B | 4 hours | 89-90 |
| **Hepatitis A Profile** | HEPA | B | 4 hours | 65,90 |
| **Hepatitis A RNA by PCR** | HAVR | A or B | 3 weeks | 90 |
| **Hepatitis A, B & C Profile** | ABC | B | 4 hours | 90 |
| **Hepatitis B 'e' Antigen and Antibody** | HEPE | B | 4 hours | 90 |
| **Hepatitis B (PCR) Genotype** | BGEN | A | 7 days | 90 |
| **Hepatitis B Core Antibody – IgM** | HBCM | B | 4 hours | 90 |
| **Hepatitis B Core Antibody – Total** | HBC | B | 4 hours | 90 |
| **Hepatitis B DNA (Viral load)** | DNAB | A | 5 days | 90 |
| **Hepatitis B Immunity** | HBIM | B | 4 hours | 89-90 |
| **Hepatitis B Profile** | HEPB | B | 4 hours | 90 |
| **Hepatitis B Resistant Mutation** | HBRM | A or B | 7 days | 90 |
| **Hepatitis B Surface Antigen** | AUAG | B | 4 hours | 65,90 |
| **Hepatitis C Abs Confirmation (RIBA)** | RIBA | B | 5 days | 90 |
| **Hepatitis C Antibodies** | HEPC | B | 4 hours | 65,90 |
| **Hepatitis C Genotype** | CGEN | A | 5 days | 90 |
| **Hepatitis C Quantification (Viral Load)** | QPCR | A or B | 5 days | 90 |
| **Hepatitis Delta Antibody** | HEPD | B | 5 days | 90 |
| **Hepatitis Delta Antigen** | HDAG | B | 5 days | 90 |
| **Hepatitis Delta RNA** | DRNA | A (Frozen plasma) | 5 days | 90 |
| **Hepatitis E (PCR)** | EHEP | A | 2 weeks | 90 |
| **Hepatitis E IgG/IgM** | HBE | B | 5 days | 90 |
| **Hepatitis G (PCR)** | HEPG | A (Frozen plasma) | 2 weeks | 90 |
| **Herpes Simplex I/II Antibody Profile (IgG)** | HERP | B | 2 days | 96 |
| **Herpes Simplex I/II by PCR (Swab)** | HERS | **PCR** | 5 days | 65,96 |
| **Herpes Simplex I/II by PCR (Urine)** | HERD | **FCRU/PCR/TPV** | 5 days | 65,96,160 |
| **Herpes Simplex I/II IgM** | HERM | B | 2 days | 96 |
| **HFE gene (Haemochromatosis)** – common mutations C282Y + H63D | HMD | A[9] | 3 days | 38,114 |
| **Hirsutism Profile** | HIRP | B | 4 hours | 49,55 |
| **Histamine (Blood)** | HITT | A (Frozen plasma) | 5 days | 78 |
| **Histamine (Urine)** | HITU | **RU** | 5 days | 78 |
| **Histamine Releasing Urticaria Test** | CURT | B | 10-14 days | 78, 134 |



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# Alphabetical test index



Key: See page 21 for sample taking and special handling instructions.

# Alphabetical test index

| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| **Homocysteine (Urine)** | HCYS | **CU** | 2 weeks | 30 |
| **Homovanillic Acid (HVA)** | HVA | **PU** | 5 days | 30 |
| **House Dust Mite Components** | ZZ12 | B | 2 days | 141 |
| **HPV (DNA and reflexed mRNA)** | HPVT | **TPV** | 3 days | 65,162 |
| **HPV (HR mRNA types 16, 18 + others)** | HPVH | **TPV** | 2-3 days | 65,162 |
| **HPV (Individual low & high risk DNA subtypes)** | HP20 | **TPV/PCR** | 2-3 days | 65, 162 |
| **HPV Individually Typed High Risk DNA Subtypes** | HPVZ | **Self-collection kit** | 10 days | 163 |
| **HPV mRNA (All High Risk Subtypes)** | HPVY | **Self-collection kit** | 3 days | 163 |
| **HRT Profile 1** | HRT | B | 4 hours | 49, 55 |
| **HRT Profile 2** | HRT2 | B G | 4 hours | 49, 55 |
| **HTLV 1& 2 Abs. (Human T Lymphotropic Virus Type I-II)** | HTLV | B | 8 hours | 94 |
| **HTLV by PCR** | HTLP | A Whole blood | 21 days | 94 |
| **Hughes Syndrome** | LUPA | B C [4,18] | 2 days | 37 |
| **Human Anti-Mouse Antibodies** | HAMA | B (Frozen) | 6 weeks | 79 |
| **Human Herpes Virus – 6 by PCR** | HHV6 | A | 5 days | 96 |
| **Human Herpes Virus – 8 (IgG)** | HHV8 | B | 10 days | 96 |
| **Human Herpes Virus – 8 by PCR** | HV8D | A | 5 days | 96 |
| **Human Parvovirus B19 – DNA** | PCRP | A | 2 weeks | 96 |
| **HVS** | HVS | **STM** ‡‡‡‡ | 2-4 days | 40 |
| **Hyaluronic Acid** | AHT | B | 1 week | 30 |
| **Hydroxybutyrate Dehydrogenase** | HBD | B (Frozen) | 1 week | 30 |
| **Hydroxyprolene** | UHYD | **CU** | 2 weeks | 30 |
| **Identity Profile (DNA)** – 15 STR markers | DNAF | A [9,11] | 10 days | 115 |
| **IgE (Total)** | IGE | B | 1 day | 79 |
| **IGF-1 (Somatomedin)** | SOMA | B (Frozen) [4] | 1 day | 50 |
| **IGF-BP3** | IGF3 | B (Frozen) [4] | 5 days | 50 |
| **IgG Subclasses** | IGSC | B | 4 days | 30 |
| **Imipramine** | IMIP | A [4] | 4 days | 130 |
| **Immune Function Evaluation (Total)** | TIE | A + B [5,10] | 7 days | 36 |
| **Immune-Complexes** | IMCP | B | 5 days | 79 |
| **Immunoglobulin A** | IGA | B | 4 hours | 30 |
| **Immunoglobulin D** | IGD | B | 5 days | 30 |
| **Immunoglobulin E – Total** | IGE | B | 1 day | 30 |
| **Immunoglobulin G** | IGG | B | 4 hours | 31 |
| **Immunoglobulin M** | IGM | B | 4 hours | 31 |
| **Immunoglobulins (IgG, IgM, IgA)** | IMM | B | 4 hours | 31,79 |
| **Impotence Profile** | IMPO | A B B G | 3 days | 50,54 |
| **Inhibin A** | INIA | B | 1 month | 50 |
| **Inhibin B** | INIB | B (Day 3 of cycle, frozen) | 5 days | 50 |
| **Inner Ear Antigen (Ottoblot)** | IEA | B | 3 weeks | 79 |
| **INR** | PTIM | C [18] | 4 hours | 36 |
| **Insect/Worm/Ova/Cysts** | FLEA | Send Specimen [9,14] | 5 days | 86 |



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| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| Lead (Blood) | LEAD | A | 5 days | 31, 155 |
| Lead (Urine) | URPB | RU | 5 days | 31,156 |
| Lead Profile (Hb, ZPP, Lead) | LEAZ | A[13] | 3-5 days | 155 |
| Legionella Antibodies | LEGO | B | 2 days | 79 |
| Legionella Urine Antigen | LEGA | RU | 1 day | 40,79 |
| Leishmania Antibodies | LEIS | B | 5 days | 86 |
| Leptin | LEPT | B[19] | 5 days | 31 |
| Leptospirosis (Weil's Disease) Abs (IgM) | LEP | B | 5 days | 79 |
| Leucine Amino Peptidase | LAP | B | 5 days | 31 |
| Leucocyte Antibody Detection Panel FEMALE | 8RF | B | 1 week | 52 |
| Leucocyte Antibody Detection Panel MALE | 7RF | H H H[3,4,6] | 1 week | 52 |
| Leukaemia Immunophenotyping | LYPT | A[4,5] | 5 days | 38 |
| Leukotriene E4 | LTE4 | CU (Frozen) | 3 weeks | 79 |
| Levetiracetam (Keppra) | LEVE | B[4] | 3 days | 130 |
| Lipase | LIPA | B | 4 hours | 31 |
| Lipid Profile | LIPP | B | 4 hours | 31,34 |
| Lipid Transfer Proteins | ZZ23 | B | 2 days | 141 |
| Lipocalins | ZZ28 | B | 2 days | 141 |
| Lipoprotein (a) | LPOA | B | 4 hours | 31 |
| Lipoprotein Electrophoresis | LEL | B | 5 days | 31 |
| Listeria Antibody | LIST | B | 1 week | 79 |
| Lithium (take 12 hours after dose) | LITH | B | 4 hours | 31,130 |
| Liver Fibrosis (Enhanced Liver Fibrosis ELF) | ELF | B | 5-7 days | 31 |
| Liver Fibrosis Fibrotest | FIBT | B | 2 weeks | 31 |
| Liver Function Tests | LFT | B | 4 hours | 31, 34 |
| Liver Immunoblot | LIVI | B | 5 days | 79 |
| Liver Kidney Microsomal Antibodies | LKM | B | 2 days | 79 |
| Lorazepam | LORA | A[4] | 10 days | 130 |
| Lp-PLA2 (PLAC) Test | PLA2 | B | 2 days | 31 |
| LSD | LSD | RU | 5 days | 153 |
| Lupus Anticoagulant and Anticardiolipin Abs | LUPA | B C[4,18] | 2 days | 37,79 |
| Lupus Anticoagulant only | LUPC | C[18] | 2 days | 37 |
| Lutein | LUTE | B[13] | 2 weeks | 144 |
| Luteinising Hormone (LH) | LH | B | 4 hours | 50 |
| Lycopene | LYCO | B | 2 weeks | 144 |
| Lyme Disease (Borrelia Abs) IgG, IgM | BORR | B[9,14] | 2 days | 79 |
| Lyme Disease (Borrelia Abs) IgM | BORM | B | 2 days | 79 |
| Lymphocyte Subsets (CD3/CD4/CD8) | LYSS | A[10] | 1 day | 36 |
| Lymphogranuloma Venerium (LGV) | LGVP | PCR* [42] | 1-2 weeks | 65 |
| Lysosomal Enzyme Screen | LE | H H[6] | 2 months | 31 |
| Lysozyme | LYSO | B | 5 days | 31 |
| Macrolide Resistance Test (Mgen) | MGR | FCRU/PCR | 1-2 weeks | 65 |
| Macroprolactin | PRLD | B | 4 days | 50 |



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| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| **Magnesium (Serum)** | MG | B | 4 hours | 31,155 |
| **Magnesium (Urine)** | URMG | PU | 1 day | 31,156 |
| **Magnesium (Whole blood)** | RCMG | A or H | 4 days | 144 |
| **Malarial Antibodies (Pl. falciparum)** | MALA | B[9,14] | 5 days | 86 |
| **Malarial Antibodies (species specific)** | MALS | B[9,14] | 10 days | 86 |
| **Malarial Parasites** | MALP | A[4,9,14] | STAT | 36 |
| **Male Genetic Reproductive Profile** | GRP | A H[9] | 10-15 days | 113, 116, 128 |
| **Male Hormone Profile** | MIPR | B | 4 hours | 50, 54 |
| **Manganese (Serum)** | MANG | B | 5 days | 31,155 |
| **Mannose Binding Lectin** | MBL | B | 3 weeks | 31 |
| **MBOCA in Urine** | MBOC | RU | 10 days | 156 |
| **Mean Cell Volume (MCV)** | MCV | A | 4 hours | 36 |
| **Measles Antibodies (IgG) Immunity** | MEAS | B | 1 day | 89,96 |
| **Measles Antibodies (IgM)** | MEAM | B[9] | 2 days | 89, 97 |
| **Measles PCR** | MEAP | Buccal swab | 48 hours | 97 |
| **Measles, Mumps, Rubella (MMR)** | MMR | B | 1 day | 89 |
| **Melanin** | MELA | RU[13] | 5 days | 50 |
| **Melatonin (Serum)** | MEL | B (Frozen) | 5 days | 50 |
| **Melatonin (Urine)** | UMEL | CU[13] | 2 weeks | 50 |
| **Meningococcal Abs** | MENI | B | 2-4 weeks | 79 |
| **Menopause Profile** | MENO | B | 4 hours | 50,55 |
| **Mercury (Blood)** | MERC | A or H | 5 days | 31, 155 |
| **Mercury (Urine)** | URHG | RU[1] | 5 days | 31,156 |
| **MERS Coronavirus Test** | MERS | J | 1 day | 97 |
| **Metabolic Syndrome Profile** | METS | A B B G | 9 days | 50,55 |
| **Metanephrines (Plasma)** | PMET | A (Frozen plasma) | 7 days | 50 |
| **Metanephrines (Urine)** | UMEX | PU[1] | 5 days | 50 |
| **Methaemoglobin** | METH | A | 3 days | 31 |
| **Methaqualone** | METQ | RU | 5 days | 31 |
| **Methotrexate** | METX | B | 2 days | 130 |
| **Methylmalonic Acid – Serum** | MMAS | B | 5 days | 31 |
| **Methylmalonic Acid – Urine** | MMA | CU | 2 weeks | 31 |
| **Metronidazole Level** | METR | B[4] | 7 days | 129 |
| **Microalbumin (Urine)** | UMA | RU | 4 hours | 31 |
| **Microdeletion (common) Syndromes** – BOBs only | PBOB | CVS/AF/A[9] | 5 days | 116 |
| **Microfilaria Blood Film** | MICF | A | STAT | 36 |
| **Miller-Dieker Syndrome** – BOBs (5 days) + karyotype (15 days) | PBOB, KARY | CVS/AF/A H[9] | 5-15 days | 116 |
| **Miller-Dieker Syndrome** – BOBs only | PBOB | CVS/AF/A[9] | 5 days | 116 |
| **Mineral Screen** | MINE | B K | 5 days | 143-144 |
| **Mineral Screen (Whole blood)** | RMIN | H H | 5 days | 143-144 |
| **Mineral Screen and Industrial Heavy Metal Screen (Trace Metals)** | TRAC | A B H K | 7-10 days | 144 |

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| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| Miscarriage/Thrombotic Risk Profile | PROP | A A B C C C [18] | 5 days | 37, 39, 120, 128 |
| Mitochondrial Antibodies | AMIT | B | 2 days | 79 |
| Mitochondrial Antibodies M2 | MAM2 | B | 2 days | 79 |
| Molybdenum (Serum) | MOLY | B | 5 days | 156 |
| MRSA (Rapid PCR) one swab per site | MRSA | Blue Micro Swab | 4 hours | 40 |
| MRSA Culture one swab per site | MRSW | Blue Micro Swab | 2 days | 40 |
| Mucopolysaccharides | MPS | RU (Frozen) | 3 weeks | 31 |
| Mumps Antibodies (IgG) | MUMP | B | 1 day | 89 |
| Mumps Antibodies (IgM) | MUMM | B | 1 day | 89,97 |
| Myasthenia Gravis Evaluation | MGE | B | 5 days | 79 |
| Mycology/Skin Scrapings by PCR | DERM | Submit Sample | 3-7 days | 40 |
| Mycophenolic Acid (Cellcept) | MYCP | A | 5 days | 130 |
| Mycoplasma genitalium by PCR | MGEN | FCRU/PCR/TPV | 2 days | 65,160 |
| Mycoplasma genitalium/Ureaplasma by PCR | MUPC | FCRU/PCR/TPV | 2 days | 65 |
| Mycoplasma pneumoniae IgM and IgG | MYCO | B | 2 days | 97 |
| Mycoplasma species – DNA | MPCR | A | 5 days | 97 |
| Myelin Associated Glycoprotein Antibodies | MAG | B | 5 days | 79 |
| Myelin Basic Protein Antibodies | MBPA | B | 2 weeks | 79 |
| Myeloma Screen | MYEL | A B G RU | 5 days | 31, 34 |
| Myeloperoxidase Antibodies | MPO | B | 2 days | 79 |
| Myocardial Antibodies | MYO | B | 1 week | 79 |
| Myoglobin (Serum) | SMYO | B | 4 hours | 32 |
| Myoglobin (Urine) | UMYO | RU | 5-10 days | 32 |
| Myositis Panel | MYOS | B | 2 days | 79 |
| Mysoline (Primidone) | PRIM | B [4] | 3 days | 130 |
| N. gonorrhoea | TGON | TPV | 2 days | 160 |
| Nail Clippings | DERM | Nail clippings | 3-7 days | 40 |
| Natural Killer Profile 2 | NKP2 | A | 2 days | 36,39 |
| Needle Stick Injury Profile | NSI | B B | 4 hours | 89,97 |
| Neurological Viral Screen | NVIR | B B | 2 days | 97-98 |
| Neuronal Antibody (Hu, Ri, Yo, Cv2, Ma2) | NEUR | B | 10 days | 79 |
| Neurone Specific Enolase | NSE | B | 5 days | 99 |
| Newborn Screening Panel | GUTH | J [1] | 2 weeks | 32 |
| Nickel (Serum) | NICK | B | 5 days | 32,155 |
| Nickel (Urine) | NICU | RU | 10 days | 32,156 |
| NK (CD69) and NK Cytotoxicity | 69C | H H H* | Send Mon-Thurs only | 53 |
| NK (CD69) Cell Assay | CD69 | H* | Send Mon-Thurs only | 53 |
| NK Assay Follow-Up Panel | 5RF | H H H | 1 week | 52 |
| NK Assay Panel + Intralipids | 16RF | H H H | 1 week | 52 |
| NK Assay/Cytotoxicity Panel | 4RF | H H H | 1 week | 52 |



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| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| **NK Cytotoxicity Assay** | HSNK | H H H* | Send Mon-Thurs only | 53 |
| **NK Cytotoxicity with suppression with steroid, IVIg and intralipin, and NK (CD69) cell assay** | 69CI | H H H* | Send Mon-Thurs only | 53 |
| **NK Cytotoxicity with suppression, steroid, IVIg & Intralipin** | NKCY | H H H* | Send Mon-Thurs only | 53 |
| **NMDA Receptor Antibodies** | NMDA | B | 3 weeks | 79 |
| **NMP22 (Bladder tumour)** | NMP | **J**[1] | 4 days | 32,99 |
| **Non-Invasive Prenatal Testing** – common aneuploidy screening from maternal blood | NIPT | **J / Special tubes**[1] | 3-5 days | 117,125 |
| **Non-Invasive Prenatal Testing** – common aneuploidy screening from maternal blood including 22q11.2 del | NIPQ | **J / Special tubes**[1] | 3-5 days | 117,125 |
| **Nucleic Acid Antigen Antibodies** | DNA | B | 2 days | 79 |
| **Oestradiol (E2)** | OEST | B | 4 hours | 50 |
| **Oestriol (Estriol)** | E3 | B B | 4 days | 50 |
| **Oestrone** | E1 | B B | 4 days | 50 |
| **Olanzapine** | OLAN | A[4] | 5 days | 130 |
| **Oligoclonal Bands** | CSFO | **CSF** + B | 5 days | 79 |
| **Oligosaccharides** | UOLI | **RU** | 6 weeks | 32 |
| **Olive Components** | ZZ14 | B | 2 days | 141 |
| **Omega 3/Omega 6** | OMG3 | A[4] | 4 days | 144-145 |
| **Opiate Screen (Urine)** | UOPI | **RU** | 2 days | 153 |
| **Orosomucoid (A1AG – Alpha 1 Glycoprotein)** | OROS | B (Frozen) | 5 days | 32 |
| **Osmolality (Serum)** | OSMO | B | 1 day | 32 |
| **Osmolality (Urine)** | ROSM | **RU** | 1 day | 32 |
| **Osteocalcin** | OST | B (Frozen)[4] | 4 days | 50,99 |
| **Osteoporosis Screen** | OPS | B B | 4 days | 32, 35 |
| **Ovarian Autoantibodies** | OVAB | B | 2 days | 79 |
| **Oxalate (Plasma)** | POXA | A (Frozen) | 7 days | 32 |
| **Oxalate (Urine)** | UOXA | **PU** | 5 days | 32 |
| **Oxidative Stress in Semen (ROS + MIOXSYS)** | SROS | **Semen**[1] | 1 day | 61 |
| **P2Y12 Receptor Platelet Function Analysis (Clopidogrel Resistance)** | P2Y | C (Whole blood)** | 1 day | 37 |
| **PAI1 4G/5G Polymorphism** | PAIP | A | 10 days | 36 |
| **Pan-Ethnic/Jewish Carrier Screening** | GENE | A[9] | 4 weeks | 118,128 |
| **Pancreatic Peptide** | PP | **J** | 4 weeks | 32 |
| **PAPT and HPVH** | PAPT + HPVH | **TPV** | 2-3 days | 162 |
| **Paracetamol** | PARA | B | 4 hours | 130 |
| **Paragomius Serology** | PRGM | B | 2 weeks | 79 |
| **Parathyroid Antibodies** | PTHA | B | 1 week | 79 |
| **Parathyroid Hormone (Whole)** | PTHI | B[4] | 1 day | 50 |
| **Parathyroid Related Peptide** | PTRP | 2ml A Plasma frozen (Freeze immediately)[1] | 2 weeks | 32 |

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| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| **Parvalbumins** | ZZ29 | B | 2 days | 141 |
| **Parvovirus Antibodies (IgM)** | PARV | B | 2 days | 97 |
| **Parvovirus DNA by PCR** | PCRP | A | 2 weeks | 97 |
| **Parvovirus IgG Antibodies** | PARG | B | 2 days | 97 |
| **Parvovirus IgG/IgM Abs** | PARP | B | 2 days | 97 |
| **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 | 118 |
| **Paul Bunnell (Monospot)** | PAUL | A or B | 8 hours | 36 |
| **Peach Components** | ZZ15 | B | 2 days | 141 |
| **Peanut Components** | ZZ16 | B | 2 days | 141 |
| **Pemphigus/Pemphigoid Autoantibodies** | SKAB | B | 2 days | 80 |
| **Pertussis (Whooping Cough) Antibodies** | PERS | B | 5 days | 89 |
| **PEth (Phosphatidylethanol)** | PETH | A [38] | 5-7 days | 32,153 |
| **Pethidine – Urine** | UPET | **RU** | 4 weeks | 156 |
| **Phelan-McDermid Syndrome** – karyotype + FISH | KARY, FISH | **CVS / AF /** H [9] | 12-17 days | 118 |
| **Phencyclidine (PCP)** | DUST | **RU** | 5 days | 32 |
| **Phenobarbitone** | PHB | B | 4 hours | 130 |
| **Phenytoin (Epanutin)** | PHEN | B | 4 hours | 130 |
| **Phosphate** | PHOS | B | 4 hours | 32 |
| **Phosphate (24 hour Urine)** | UPH | **PU** | 4 hours | 32 |
| **Phospholipid Antibodies** | PLIP | B | 5 days | 80 |
| **Pituitary Antibodies** | PITU | B [4] | 1 month | 80 |
| **Pituitary Function Profile** | PITF | B B | 1 day | 50,55 |
| **PLAC Test (Lp-PLA2)** | PLA2 | B | 2 days | 32 |
| **Plasminogen** | PLAS | C (Frozen plasma) [4] | 5 days | 32 |
| **Plasminogen Activator Inhibitor – 1** | PAI1 | C (Frozen plasma) | 2 weeks | 32 |
| **Platelet Aggregation Studies** | PLAG | **J** [5,6] | 3 days | 37 |
| **Pleural Fluid for Culture** | FLUP | **SC** | 7 days | 40 |
| **Pneumococcal Antibodies – Serotype Specific** | PASS | B | 5 weeks | 80 |
| **Pneumococcal Antibody Screen** | PNEU | B | 7 days | 80,89 |
| **Pneumococcal Antigen** | PNAG | **RU** | 1 day | 40 |
| **Pneumocystis Jiroveci (PCP) Examination** | PCYS | **BAL**‡‡ | 2-3 days | 40 |
| **Pneumonia (Atypical) Screen** | APS | B | 2 days | 97-98 |
| **Polcalcins** | ZZ25 | B | 2 days | 141 |
| **Polio Virus 1, 2, 3 Antibodies** | POLO | B [9] | 15 days | 89 |
| **Polycystic Ovary Syndrome Profile** | PCOP | A B B B G [7] | 5 days | 50,55 |
| **Polycystic Ovary Syndrome SHORT** | PCOS | B G | 4 hours | 50,55 |
| **Porphyrin (Blood)** | PORP | A [3] | 15 days | 32 |
| **Porphyrins (Faeces)** | FPOR | **RF** [3] | 3 weeks | 32 |
| **Porphyrins Full Screen (Total: Urine, Stool, Blood)** | PORS | A **RU, RF** [3] | 3 weeks | 32 |
| **Porphyrins Screen (Urine)** | RPOR | **RU** [3] | 3 weeks | 32 |
| **Postnatal array CGH** | CGH | A H [9] | 10 days | 118 |



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| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| **Post-Travel Screen 1 (Prior to 6 weeks)** | PTS | A A B C [14] | 10 days | 86-87 |
| **Post-Travel Screen 2 (Prior to 6 weeks)** | PTS2 | A A B B B C [14] | 10 days | 86-87 |
| **Potassium** | K | B | 4 hours | 32 |
| **PR-10 Proteins** | ZZ22 | B | 2 days | 141 |
| **Prader-Willi Syndrome (Primary Screen)** – methylation PCR | PWAM | A [9] | 5 days | 118 |
| **Pre-Travel Screen (DVT)** | DVT1 | A A B [9] | 5 days | 36, 39, 86-87, 118, 128 |
| **Prealbumin** | PALB | B | 3 days | 134 |
| **Pregnancy (Serum) [Quantitative]** | QHCG | B | 4 hours | 32,50 |
| **Pregnancy Test (Urine)** | PREG | **RU** | 4 hours | 32 |
| **Pregnanetriol (Urine)** | UPTR | **CU** (Frozen) | 5 days | 50 |
| **Pregnenolone** | PREN | B | 15 days | 50 |
| **Prenatal array CGH** | CGH | **Amniotic fluid** or **CVS** [9] | 10 days | 118 |
| **Primidone (Mysoline)** | PRIM | B [4] | 3 days | 130 |
| **Procalcitonin** | PCAL | B (Frozen) [4,7] | 1 day | 32 |
| **Procollagen 1 Peptide N-Terminal (NTX)** | P1NP | B | 5 days | 32 |
| **Procollagen III Peptide** | PRCO | B | 5 days | 32 |
| **Products of Conception** – rapid BOBs aneuploidy diagnosis for all chromosomes (5 days) + culture (25 days) | PBK | **Placental Sample** [1,9] | 5-25 days | 119, 128 |
| **Products of Conception BOBs only** – rapid aneuploidy diagnosis for all chromosomes | KBOB | **Placental Sample** or **Solid Tissue** [1,9] | 3-6 days | 119 |
| **Profilins** | ZZ24 | B | 2 days | 141 |
| **Progesterone** | PROG | B | 4 hours | 50 |
| **Proinsulin** | PROI | A (Frozen plasma) [4] | 5 days | 50 |
| **Prolactin** | PROL | B | 4 hours | 50 |
| **Prolactin (Macro)** | PRLD | B | 4 days | 50 |
| **Propanalol** | PRO | B [4] | 7 days | 131 |
| **Propoxyphene** | DPRO | **RU** | 5 days | 32 |
| **Prostate Profile (Total & Free PSA)** | PR2 | B | 4 hours | 99 |
| **Prostate Specific Antigen (Total)*** | PSPA | B | 4 hours | 99 |
| **Prostatic Acid Phosphatase** | PACP | B (Frozen) | 3 days | 32 |
| **Protein (Urine)** | UPRT | **CU** | 4 hours | 32 |
| **Protein 14.3.3 (Creutzfeldt–Jakob Disease)** | CJD | **CSF** (Frozen) | 5 weeks | 32 |
| **Protein C** | PRC | C (Frozen) [4,9,18] | 3 days | 37 |
| **Protein Electrophoresis incl. immunoglobin** | PRTE | B | 2-4 days | 32 |
| **Protein S Activity** | PS1 | C (Frozen) | 5 days | 37 |
| **Protein S Free Ag** | FPRS | C (Frozen) [4,9,18] | 3 days | 37 |
| **Protein Total (Blood)** | PROT | B | 4 hours | 32 |
| **Protein/Creatinine Ratio (Urine)** | UCPR | **RU** | 4 hours | 32 |
| **Proteinase 3 Ab** | PR3 | B | 2 days | 80 |
| **Prothrombin Time** | PTIM | C [18] | 4 hours | 36 |

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| | TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|---|
| | **Prothrombin Time + Dose** | PT+D | C [18] | 4 hours | 36 |
| | **Purkinje Cell Antibody (Hu and Yo)** | PURK | B | 10 days | 80 |
| | **Pyruvate Kinase (M2-PK)** | M2ST | **RF** [4] | 5 days | 99 |
| | **Pyruvate Kinase (M2-PK)** | M2PK | A | 5 days | 99 |
| | **QF-PCR rapid common aneuploidy screen** | APC | **AF**/A [9] | 1-2 days | 119 |
| | **Q Fever (C Burnetti) Antibodies** | QFEV | B [9] | 10 days | 80 |
| | **Rabies Antibody** | RABI | B | 10 days | 89 |
| | **Rapid Strep (incl. m/c/s)** | RAPS | **STM**** | 1-3 days** | 40 |
| | **Rapid Xpert HIV-1 RNA Qualitative** – Early Detection from 10 days | LHIV | A (Vacutainer only) | 4 hours | 65,76 |
| | **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 | 66,76 |
| NEW | **Recurrent Fever Screening** – across 4 genes | GENE | A A | 6 weeks | 119 |
| | **Recurrent Miscarriage Profile (female)** | RMP | A A B C C C H [9,18] | 10-15 days | 119,128 |
| | **Renal Calculi Screen (Metabolic)** | RSPR | **J** [6] | 5 days | 32 |
| | **Renal Stone Analysis** | RSTA | **STONE** | 10 days | 32 |
| | **Renin** | RENI | A (Frozen plasma) [36] | 5 days | 50 |
| | **Reproductive Immunophenotype Panel** | 3RF | H H H | 1 week | 52 |
| NEW | **Respiratory Viral RNA Screen by PCR** | FLU4 | **PCR** nasopharyngeal | 48 hours | 97-98 |
| | **Reticulocyte Count** | RETC | A | 4 hours | 36 |
| | **Retinol Binding Protein** | RBP | B | 3 days | 32 |
| | **Retrograde Ejaculation** | RTRO | Contact Lab | 2 days | 61 |
| | **Reverse T3** | RT3 | B [7,37] | 10 days | 50 |
| | **Rheumatoid Factor (Latex Test)** | RF | B | 1 day | 80 |
| | **Rheumatology Profile 1 (Screen)** | RH | A B | 2 days | 80,84 |
| | **Rheumatology Profile 2 (Connective tissue)** | RH2 | A A B B | 3 days | 80,84 |
| | **Rheumatology Profile 3 (Rheumatoid/Basic)** | RH3 | A B | 2 days | 80,84 |
| | **Rheumatology Profile 4 (Systemic Lupus)** | RH4 | A B B | 2 days | 80,84 |
| | **Rheumatology Profile 5 (Mono Arthritis)** | RH5 | A A B B | 3 days | 80,84 |
| | **Rheumatology Profile 6 (Rheumatoid Plus)** | RH6 | B | 2 days | 80,84 |
| | **Rheumatology Profile 7 (Sjogren's Syndrome)** | RH7 | B | 10 days | 80,84 |
| | **Rhinitis Provoking Profile** | ALRN | B | 2 days | 134 |
| | **Rickettsial Species Antibody Profile** | RICK | B | 7 days | 80,86 |
| | **Risperidone** | RISP | A [4] | 7 days | 131 |
| | **Rotavirus in Stool by PCR** | ROTA | **RF** | 1 day | 97 |
| | **RPR (VDRL)** | RPR | B | 2 days | 66,80 |
| | **Rubella Antibody (IgG)** | RUBE | B | 4 hours | 89,97 |
| | **Rubella Antibody (IgM)** | RUBM | B | 4 hours | 89,97 |
| | **Rubella Avidity** | RUAV | B | 1 week | 97 |
| | **Rubella PCR** | RUBP | A/**Amniotic Fluid** | 5 days | 89 |
| | **S100 Malignant Melanoma** | S100 | B | 4 days | 99 |



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|---|---|---|---|---|---|
| | Saccharomyces Cerevisiae Antibodies | ASCA | B | 2 weeks | 80 |
| | Salicylates | SALI | B | 4 hours | 32 |
| | Salivary Duct Antibodies | SAB | B | 12 days | 80 |
| NEW | SARS-CoV-2 (COVID-19) Abbott IgG Antibody | GCOV | **SST/Serum** B * (Venous) | 24 hours | 97 |
| NEW | SARS-CoV-2 (COVID-19) RNA by PCR | NCOV | **PCR Swab** (nasal/pharyngeal) | 48 hours | 97 |
| NEW | SARS-Cov-2 (COVID-19) Roche Elecsys Anti-SARS-CoV-2 Total Antibody | TCOV | **SST/Serum** B ** (Venous and Capillary) | 24 hours | 97 |
| | Schistosoma (Urine) | USCH | **Mid-morning terminal urine** | 8 hours | 41 |
| | Schistosome (Bilharzia) Antibodies | BILH | B[14] | 10 days | 86 |
| | Schistosome Antigen | SHAG | B | 15 days | 86 |
| | Scleroderma Immunoblot | SCLI | B | 5 days | 80 |
| | Screening Profile 1 – Biochemistry | PP1 | B G | 4 hours | 22 |
| | Screening Profile 2 – Haematology/Biochemistry | PP2 | A B G | 4 hours | 22 |
| | Screening Profile 3 – Haematology | PP3 | A | 4 hours | 22, 36, 39 |
| | Screening Profile 4 – Haematology/Biochemistry (Short) | PP4 | A B G | 4 hours | 22 |
| | Screening Profile 5 – Haematology/Biochemistry (Postal) | PP5 | A B G | 4 hours | 22 |
| | Screening Profile 6 – Well Person | PP6 | A B G | 4 hours | 22 |
| | Screening Profile 7 – Well Man | PP7 | A B G | 4 hours | 23 |
| | Screening Profile 8 – Well Person | PP8 | A B G | 2 days | 23 |
| | Screening Profile 9F – Senior Female | PP9F | A B B G **RU QFIT**[4] | 2 days | 23 |
| | Screening Profile 9M – Senior Male | PP9M | A B B G **RU QFIT**[4] | 2 days | 23 |
| | Screening Profile 10 – Cardiovascular Risk 1 | PP10 | B B | 3 days | 23, 28, 35 |
| | Screening Profile 11 – Cardiovascular Risk 2 | PP11 | B B B C[34] | 3 days | 23, 28, 35 |
| | Screening Profile 12 – Sexual Health Screen | PP12 | **FCRU/PCR/TPV/Semen** | 2 days | 23, 65, 75, 160 |
| | Seed Storage Proteins | ZZ26 | B | 2 days | 141 |
| | Selenium (Serum) | SELE | B | 4 days | 33,144 |
| | Selenium (Whole Blood) | SELR | A or H | 4 days | 33,144 |
| | Sellotape Test | SELL | Send Sample*** | 1 day | 41 |
| | Semen Analysis, Comprehensive* | SPER | **Semen**[1] | 2 days* | 61 |
| | Semen Analysis, Post-Vasectomy** | PVAS | **Semen**[1] | 2 days | 61 |
| | Semen Analysis, Vasectomy Reversal* | SPER | **Semen**[1] | 2 days* | 61 |
| | Semen Culture | SPCU | **Semen** | 2-4 days | 41, 61 |
| | Semen Fructose | SPCF | **Semen** | 2 days | 61 |
| | Semen Leucocytes | PMNS | **Semen** | 2 days | 61 |
| | Semen Parameters | SPOD | **Semen**[1] | 1 day | 61 |
| | Semen Zinc | SPCZ | **Semen** | up to 10 days | 61 |
| | Serotonin | SERT | H (Frozen whole blood)[1] | 10 days | 50 |
| | Serotonin (Urine) | USER | **PU** 50mls (Frozen)[1] | 5 days | 50 |
| | Serum Albumins | ZZ30 | B | 2 days | 141 |
| | Serum Free Light Chains | SLC | B | 1 week | 33 |

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|---|---|---|---|---|
| **Sex Hormone Binding Globulin** | SHBG | B | 4 hours | 50 |
| **Shrimp Components** | ZZ17 | B | 2 days | 141 |
| **Sickle Solubility** | SSOL | A | 4 days | 38 |
| **Silver (Blood)** | SILV | B | 5 days | 33,155 |
| **Silver (Urine)** | USIL | **RU** | 5 days | 33,156 |
| **Sinequan (Doxepin)** | DOXE | A | 10 days | 131 |
| **Sirolimus** | SIRO | A | 3 days | 131 |
| **Sjogren's Syndrome** | RH7 | B | 2 days | 80,84 |
| **Skin (Pemphigus/Pemphigoid) Autoantibodies** | SKAB | B | 2 days | 80 |
| **Skin Antibodies by Immunofluorescence** | STSK | B | 1 month | 80 |
| **Skin Scrapings/Mycology by PCR** | DERM | Send Sample | 3-7 days | 41 |
| **Sleeping Sickness Serology (African Trypanosomiasis)** | TRYP | B[9] | 10 days | 80 |
| **Smith-Magenis Syndrome** – BOBs (5 days) + karyotype (15 days) | PBOB, KARY | **CVS/AF/**A H[9] | 5-15 days | 120 |
| **Smith-Magenis Syndrome** – BoBs only | PBOB | **CVS/AF/**A[9] | 5 days | 120 |
| **Smooth Muscle Antibodies** | ASMO | B | 2 days | 80 |
| **Sodium** | NA | B | 4 hours | 33 |
| **Somatomedin (IGF-1)** | SOMA | B (Frozen)[4] | 1 day | 50 |
| **Soybean Components** | ZZ18 | B | 2 days | 141 |
| **Specific Gravity (Urine)** | USG | **RU** | 24 hours | 41 |
| **Sperm Aneuploidy** | SPPL | **Semen**[1] | 4 weeks | 61 |
| **Sperm Antibodies (Serum)** | ASAB | B | 5 days | 61,80 |
| **Sperm Antibodies/MAR Test (Semen)**† | ASPA | **Semen** | 1 day | 61 |
| **Sperm Comet®** | CMET | **Semen** | 1-2 weeks | 61 |
| **Sperm Count (Post-Vasectomy)** | PVAS | **Semen**[1] | 2 days | 61 |
| **Sperm DNA Fragmentation (SCSA)** | SEXT | **Semen**[1] | 1-2 weeks | 61 |
| **Sperm Morphology (Kruger strict criteria)** | MRPH | **Semen**[1] | 2 days | 61 |
| **Spinal Muscular Atrophy** – SMN1 deletions/duplications | SMA | A[9] | 10 days | 120 |
| **Sports/Performance Profile** | SPOR | A A A B B B B G K[4] | 5 days | 143-144 |
| **Sputum for Routine Culture** | SPU1 | **SC** | 2-4 days | 41 |
| **Sputum for TB Culture (AFB)** | SPU2 | **SC** | up to 8 weeks | 41 |
| **Squamous Cell Carcinoma** | SCC | B | 4 days | 99 |
| **SRY (Sex-determining Region Y)** | SRY | A[9] | 2 days | 120 |
| **STD1 M/F STD Quad** | STD1 | B **FCRU** | 2 days | 66,74 |
| **STD2 M/F STI Profile Plus (Urine and Serology)** | STD2 | B **FCRU** (If culture swabs are needed please request separately) | 4 days | 66,74 |
| **STD3 Female STD Quad (PCR Swab and Serology)** | STD3 | B **PCR** | 2 days | 66,74 |
| **STD4 Female STI Profile Plus (PCR Swab and Serology)** | STD4 | B **PCR** (If culture swabs are needed please request separately) | 4 days | 66,74 |



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|---|---|---|---|---|
| **STD5 Serology only** | STD5 | B | 4 hours | 66,74 |
| **STD6 Serology only without HIV** | STD6 | B | 4 hours | 66,74 |
| **STD8 Vaginitis/BV Profile using Culture & PCR Swab** | STD8 | **PCR/STM** | 3 days | 66,75 |
| **STD9 Symptomatic lesion sample using PCR Swab from lesion & PCR Swab** | STD9 | 2 x **PCR Swab** | 7 days | 66,75 |
| **Steroid Cell Antibody** | SCA | B | 2 days | 80 |
| **STI Profile: MSM1** | MSM1 | B **/FCRU/PCR Swab Throat/PCR Swab Rectal** | 2 days | 66,76 |
| **STI Profile: MSM2** | MSM2 | B **/FCRU/PCR Swab Throat/PCR Swab Rectal** | 3 days | 66,76 |
| **Stool for OCP and Culture** | PENT | **RF** | 2-3 days | 41 |
| **Stool for OVA Cysts & Parasites by PCR** | OCP | **RF** | 1 day | 41 |
| **Stool Reducing Substances** | STRS | **RF**[7] | 5 days | 41 |
| **Streptomycin Levels** | STRM | F | 5 days | 131 |
| **Striated/Skeletal Muscle Antibody** | STRA | B | 2 days | 80 |
| **Strongyloides Antibodies** | STGA | B | 10 days | 80 |
| **Sulpiride** | SULP | B[4] | 4 days | 131 |
| **Superoxide Dismutase Inhibitor** | SODI | A/H | 5 days | 33 |
| **Suppression with steroid, IVIg and intralipin, NK (CD69) cell assay, TH1/TH2 cytokines** | NCIT | H H H* | Send Mon-Thurs only | 53 |
| **Swab (Ear)** | EARS | **STM** | 2-4 days (Culture) 8-9 days (Fungal) – same swab | 41 |
| **Swab for Culture (Any Site)** | SWAB | **STM**† | 2-4 days | 41,66 |
| **Synacthen Stimulation Test** | SYNA | By appointment only | 1 day | 129 |
| **Synovial Fluid (for microscopy and culture)** | FLU2 | **SC**††† | 14 days | 41 |
| **Syphilis by PCR (chancre)** | SYPS | **PCR** | 5 days | 66 |
| **Syphilis IgG/IgM** | SERJ | B | 4 hours | 66, 80 |
| **T Regulatory Cells** | 25RF | H | 3 days | 52 |
| **T3** | T3 | B | 4 hours | 50 |
| **T3 (Reverse)** | RT3 | B[7,37] | 10 days | 50 |
| **Tacrolimus/Prograf (FK506)** | FK5 | A[4] | 1-2 days | 131 |
| **Taipan Snake Venom Time** | TTVT | C[18] | 1 week | 37 |
| **TB (pleuralfluid)** | TBCU | **SC** | up to 8 weeks | 41 |
| **TB Culture** | SPU2 | **SC** | up to 8 weeks | 41 |
| **TB Culture (Urine)** | TBUR | 3 x **EMU** | up to 8 weeks | 41 |
| **TB Quantiferon®-TB Gold*** | TBQ4 | **Special tubes** or H[1] | 3 days | 80 |
| **TB Slopes** – Confirmation and Sensitivity | TBSL | **TB slope** (LJ medium-green)[6] | up to 8 weeks | 41 |
| **TDL Tinies & Self-collection samples** | | | | 146-151 |
| **Tegretol (Carbamazepine)** | CARB | B | 4 hours | 131 |
| **Teicoplanin Assay** | TEIC | B | 5 days | 129 |

# Alphabetical test index

| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| Temazepam | TEMA | B[4] | 4 days | 131 |
| Testicular Autoantibodies | TAB | B | 2 days | 80 |
| Testicular Tumour Profile | TTP | B | 4 hours | 99 |
| Testosterone | TEST | B | 4 hours | 50 |
| Testosterone (Bioavailable) | BTES | B | 5 days | 50 |
| Testosterone (Free) | FTES | B | 3 days | 50 |
| Tetanus Antibody | TETA | B | 5 days | 80,89 |
| TH1/TH2 Cytokine Profile | 1TH2 | HHH* | Send Mon-Thurs only | 53 |
| TH1/TH2 Cytokine Ratio | 6RF | HHH[5] | 1 week | 52 |
| TH1/TH2 Intracellular Cytokine Ratios with IVIG, Prednisolone | 20RF | HHH[5] | 1 week | 52 |
| TH1/TH2 Intracellular Cytokine Ratios with Prednisolone | 22RF | HHH[5] | 1 week | 52 |
| TH1/TH2 Intracellular Cytokine Ratios with IVIG | 21RF | HHH[5] | 1 week | 52 |
| Thalassaemia Screen | HBEL | A | 4 days | 38 |
| Thallium (Blood) | THAL | A/H | 1 week | 156 |
| Thallium (Urine) | URTH | RU | 1 week | 156 |
| Theophylline | THEO | B | 4 hours | 131 |
| Thiopurine Methyl Transferase | TPMT | A[5] | 5 days | 33 |
| Thrombin Time | THRO | C[18] | 4 hours | 36 |
| Thrombotic Risk Profile | PROP | AABCCC[18] | 5 days | 37,39, 120,128 |
| Thyroglobulin Abs | TGAB | B | 1 day | 51 |
| Thyroglobulin Assay | TGA | B | 1 day | 51 |
| Thyroid Abs (incl. Thyroglobulin + Thyroid Peroxidase Abs) | THAB | B | 1 day | 51,80 |
| Thyroid Peroxidase Antibodies/Anti TPO | TPEX | B | 1 day | 51,80 |
| Thyroid Profile 1 | TF | B | 4 hours | 51,54 |
| Thyroid Profile 2 | TF2 | B | 2 days | 51,54 |
| Thyroid Profile 3 | TF3 | B | 4 hours | 51,54 |
| Thyroxine (T4) | T4 | B | 4 hours | 51 |
| Thyroxine Binding Globulin | TBG | B (Frozen) | 10 days | 51 |
| Timothy Grass Components | ZZ19 | B | 2 days | 141 |
| Tissue for culture | TISS | Tissue sample | up to 14 days | 41 |
| Tissue Polypeptide Antigen | TPA | B | 1 week | 33 |
| Tissue Transglutaminase IgA (Coeliac)** | TAA | B | 2 days | 80 |
| Tissue Transglutaminase IgG | TAAG | B | 5 days | 80 |
| Tobramycin Assay (Provide Clinical Details) | TOBR | B | 3 days | 129 |
| Toluene (Blood) | TOL | J | 10 days | 156 |
| Toluene (Urine) | UTOL | RU | 10 days | 156 |
| Topiramate (Topamax) | TOPI | B[4] | 4 days | 131 |
| Torch Screen | TORC | B | 2 days | 80, 97-98 |
| Total Acid Phosphatase | APT | B | 5 days | 33 |



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 |
|---|---|---|---|---|
| **Total Bile Acid/Bile Salts** | BILS | B | 1 week | 33 |
| **Total IgE** | IGE | B | 1 day | 33, 80, 136 |
| **Total Immune Function Evaluation** | TIE | A + B [5,10] | 7 days | 80 |
| **Toxocara Antibodies (IgG)** | TFAT | B [9] | 5 days | 80 |
| **Toxoplasma Antibodies (IgG+IgM)** | TFAM | B [9] | 4 hours | 80, 86 |
| **Toxoplasma Antibody Full Evaluation (IgM, Dye Test, IgG Avidity)** | TDYE | B [9] | 10 days | 81 |
| **Toxoplasma by PCR** | TXAG | A | 5 days | 81 |
| **TPPA** | TPPA | B | 2 days | 66, 81 |
| **Trace Metal (Blood) Profile** | TRAC | A B H K | 7-10 days | 155 |
| **Transferrin** | TRAN | B | 1 day | 33 |
| **Transferrin Electrophoresis** | TREL | B | 2 weeks | 33 |
| **Trichinella Serology** | TRIC | B | 5 days | 81 |
| **Trichloracetic Acid (Urine)** | UTCA | **RU** | 5 days | 156 |
| **Trichomonas vaginalis by PCR** | TVPC | **FCRU/PCR/TPV** | 2 days | 66, 160 |
| **Triglycerides** | TRI | B | 4 hours | 33 |
| **Trimethylaminuria (Fish Odour Syndrome)** | FOS | **PU** | 6 weeks | 33 |
| **Trimipramine** | TRIM | A | 5 days | 131 |
| **Tropical Screen (from 6 weeks post-travel)** | TROP | B B [9,14] | 10 days | 86-87 |
| **Tropomyosins** | ZZ31 | B | 2 days | 141 |
| **Troponin T (High sensitive)** | TROT | B | 4 hours | 33 |
| **Trypanosome (Chagas) Antibodies** | CHGA | B [9,14] | 10 days | 81 |
| **Tryptase** | STRY | B | 2 days | 33, 134 |
| **TSH** | TSH | B | 4 hours | 51 |
| **TSH-Receptor Antibodies** | TSI | B | 4 days | 51, 81 |
| **Tularaemia Antibodies** | TULA | B [14] | 5 days | 81 |
| **Tumour Necrosis Factor – Alpha** | TNF | B (Frozen) [4] | 2 weeks | 33 |
| **Uni Parental Disomy (UPD)** – parents and child – *Specify chromosome* | Specify type | A [9,12] | 5 days | 120 |
| **Urate (Uric acid)** | UA | B | 4 hours | 33 |
| **Urea** | UREA | B | 4 hours | 33 |
| **Urea (Urine)** | UURE | **CU** | 4 hours | 33 |
| **Urea and Electrolytes** | U/E | B | 4 hours | 33, 34 |
| **Urea Electrolytes (Urine)** | UELE | **CU** | 4 hours | 33 |
| **Ureaplasma urealyticum by PCR** | UGEN | **FCRU/PCR/TPV** | 2 days | 66, 160 |
| **Uric Acid (Serum)** | UA | B | 4 hours | 33 |
| **Uric Acid (Urine)** | UURI | **CU** | 4 hours | 33 |
| **Urinary Methyl Histamine** | UHIT | **RU** (Frozen) | 2 weeks | 81 |
| **Urine (Microscopy Only)** | UMIC | **RU** | 1 day | 41 |
| **Urine Cytology** (Urine cytology containers available from TDL Supplies) | URCY | **Urine** (30mls) [21] | 2 days | 165 |
| **Urine EtG (Ethyl glucuronide)** | ETG | **RU** | 1 week | 153 |
| **Urine for Microscopy and Culture** | UCEM | **MSU**†††† | 1-2 days | 41 |
| **Urine Free Light Chains** | UFLC | **RU** | 1 week | 33 |

# Alphabetical test index

| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| Urine Organic Acids | UORG | **RU** (Frozen) | 3 weeks | 33 |
| Urine Steroid Screen (Steroid Hormones) | USTE | **CU** or **RU**[9] | 2 weeks | 33 |
| Urine Sugar Chromatography | UCRO | **RU** (Frozen) | 3 weeks | 33 |
| Urobilinogen (Urine) | UURO | **RU** | 1 day | 33 |
| Urticaria Test (Histamine Releasing) | CURT | B | 10-14 days | 81 |
| Vaginitis/BV Profile using Culture & PCR Swab | STD8 | **PCR**/**STM** | 3 days | 66, 75 |
| Valium (Diazepam) | DIAZ | A | 7 days | 131 |
| Valproic Acid (Epilim) | VALP | B | 4 hours | 131 |
| Vancomycin Hydrochloride | VANC | B | 4 hours | 129 |
| Varicella Zoster – DNA | VZPC | A | 5 days | 97 |
| Varicella Zoster Antibodies (IgG) | VZOS | B | 1 day | 89, 97 |
| Varicella Zoster Antibodies (IgM) | VZOM | B | 1 day | 89, 97 |
| Vascular Endothelial Growth Factor | VEGF | B | 14 days | 81 |
| VDRL (RPR) | RPR | B | 2 days | 81 |
| Venom Components | ZZ33 | B | 2 days | 141 |
| Very Long Chain Fatty Acids | VLCF | A or H (Frozen)[9] | 4-6 weeks | 33 |
| Vigabatrin (Sabril) | VIGA | A | 10 days | 131 |
| Viral Antibody Screen | VIRA | B B | 2 days | 97-98 |
| Viral Eye by PCR | VPE | **PCR** | 3 days | 97-98 |
| Viral Respiratory RNA Screen by PCR | VPR | **PCR** or as specified on the form | 2 days | 97 |
| Viral Skin/Mucosa by PCR | VPSK | **PCR** | 2 days | 97-98 |
| Viscosity (Plasma) | VISC | A[4] | 3 days | 37 |
| Vitamin A (Retinol) | VITA | B | 5 days | 144 |
| Vitamin B (Functional) | FUNC | A A or H[13] | 5 days | 144 |
| Vitamin B Profile | VBP | A A B | 5 days | 143-144 |
| Vitamin B1 (Thiamine) | VIT1 | A | 5 days | 144 |
| Vitamin B2 (Riboflavin) | VIB2 | A | 5 days | 144 |
| Vitamin B3 (Nicotinamide) | VIB3 | B | 5 days | 144 |
| Vitamin B5 (Pantothenic Acid) | VB5S | B | 5 days | 144 |
| Vitamin B6 (Pyridoxine) | VITB | A | 5 days | 144 |
| Vitamin B8 (Biotin) | BIOS | B | 5 days | 144 |
| Vitamin B9 (Folic acid) – Red cell | RBCF | A | 2 days | 144 |
| Vitamin B9 (Folic acid) – Serum | FOLA | B | 1 day | 144 |
| Vitamin B12 (Active) | B12 | B | 1 day | 33, 144 |
| Vitamin B12 (Active)/ Red Cell Folate | B12F | A B | 2 days | 33, 144 |
| Vitamin B12 (Total) | TB12 | B | 1 day | 33 |
| Vitamin C (Active) | VITC | B (Frozen)[7] | 5 days | 145 |
| Vitamin D (1, 25 Dihydroxy) | D3 | B | 5-8 days | 145 |
| Vitamin D (25-OH) | VITD | B | 4 hours | 33, 145 |
| Vitamin E (Alpha Tocopherol) | VITE | B | 5 days | 145 |
| Vitamin K (Nutritional) | VKN | B[13] | 5 days | 145 |
| Vitamin K (With PIVKA II) | VITK | B[13] | 10 days | 36 |



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| TEST | CODE | SAMPLE REQS | TAT | PAGE |
|---|---|---|---|---|
| **Vitamin Profile 1** | VITS | A B B[7] | 5 days | 143, 145 |
| **Vitamin Profile 2** | VIT2 | A A A B B[7,13] | 5 days | 143, 145 |
| **VLDL Cholesterol** | VLDL | B[13] | 1 week | 33 |
| **VMA** | UVMA | **PU**[1] | 5 days | 33 |
| **Voltage Gated Calcium Channel Antibodies** | CCAB | B | 3 weeks | 81 |
| **Voltage Gated Potassium Channel Antibodies** | VPCA | B | 3 weeks | 81 |
| **Von Willebrand Profile** | FVWF | C C C[4,12] | 5 days | 37, 39 |
| **Von Willebrands Multimers** | VWM | C C C[18] | 3 months | 37 |
| **Wall Pellitory Components** | ZZ20 | B | 2 days | 141 |
| **Walnut Components** | ZZ34 | B | 2 days | 141 |
| **West Nile Virus Abs** | WNV | B | 2 weeks | 97 |
| **Wheat Components** | ZZ21 | B | 2 days | 141 |
| **Whooping Cough (Pertussis) Antibodies** | PERS | B | 5 days | 81 |
| **Whooping Cough (Pertussis) by PCR** | PERP | **Prenasal (posterior nasopharynx) swab** | 5 days | 81 |
| **Wolf-Hirschhorn Syndrome** – BOBs (5 days) + karyotype (15 days) | PBOB, KARY | **CVS / AF /** A H[9] | 5-15 days | 121 |
| **Wolf-Hirschhorn Syndrome** – BOBs only | PBOB | **CVS / AF /** A[9] | 5 days | 121 |
| **Xanthine – Blood** | XANB | A | 2 weeks | 156 |
| **Xylene – Urine** | UXYL | **RU**[30] | 2 weeks | 156 |
| **Xylose Tolerance Test** | XTT | **J**[1] | 7 days | 144 |
| **Y chromosome microdeletions** – AZFa + AZFb + AZFc + SRY | YDEL | A[9] | 5 days | 121 |
| **Yellow Fever Antibodies** | YELL | B[9,14] | 10 days | 81 |
| **Yersinia Antibodies** | YERS | B | 4 days | 81 |
| **Zika Abs IgM and IgG** – Antibody detection from 15 days | ZKAB | B | 5 days | 81, 86, 97 |
| **Zika RNA by PCR in Semen** | ZIKS | **Semen** | 5 days | 86, 97 |
| **Zika RT PCR** – Window of detection from 1-14 days from onset of symptoms | ZIKU | **RU** | 5-7 days | 86 |
| **Zika RT PCR** – Window of detection from 1-7 days from onset of symptoms | ZIKA | B | 5-7 days | 86 |
| **Zinc (Serum/Plasma)** | ZINC | K | 1 day | 144, 155 |
| **Zinc (Urine)** | URZN | **CU** | 5 days | 144, 156 |
| **Zinc (Whole Blood)** | RBCZ | A or H | 5 days | 144 |
| **Zinc Protoporphyrin** | ZNPR | A[13] | 5 days | 156 |
| **Zygosity testing** – comparative DNA profile | DNAC | A (From each twin and both parents)[9] | 5 days | 121 |

# 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

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 LaboratoryOxford University Hospital NHS Foundation Trust – Churchill Hospital

Pathcare

# TDL Referral Laboratories

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

Rosalind Franklin University

Royal Berkshire Hospital NHS Foundation Trust –
Clinical Biochemistry

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 Budapest Diagnostic Center,
Genoid Molecular Diagnostic Laboratory

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

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 – 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 2021

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 turn-around 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.

## 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.

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.

## 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.

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 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;

'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;

'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' and 'personal data' have the meaning given to those terms in Data Protection Laws;

'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' has the meaning given to that term in Data Protection Laws;

'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.

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

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:** DD MM YY

**NHS No.:** | **Post code:**

## CLINICAL DETAILS (To be completed by Midwife or Doctor)

First day of Last Menstrual Period (LMP) DD MM YY

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: DD MM YY

embryo transfer date DD MM YY

If egg(s) donated enter the donor's DOB DD MM YY

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 DD MM YY

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 DD MM YY

Date of serum sample DD MM YY 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 DD MM YY Time taken _____ Sample taken by _____

## ADDRESS TO WHICH REPORT SHOULD BE SENT

_____

_____

Telephone No. _____ Fax No. _____

# 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 (x$10^9$/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 No.: _____ Fax No.: _____

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: _____

_____

_____

Telephone: _____

Fax: _____

## 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**

☐ Fee to be paid by Doctor/Clinic as above

Insurance Co. _____ Membership No. _____

Patient address _____

_____

_____ Postcode _____ Contact telephone number _____

# Supplies re-order form

**Tel: 020 7307 7373 Fax:020 7307 7340**
**E-mail: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 | [ ] |

**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
Patient Reception Fax: 020 7307 7371
***Out of hours samples may be dropped at 76 Wimpole St***

CLINICIAN

SOURCE

Doctor

Address

Tel Fax

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.

| | 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 testing 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 20 HPV DNA subtypes**
If **HP20** is requested as a single test and is Positive/Detected, cervical cytology (PAPT) will be carried out from the same vial **without charge.**

☐ **HPVT Typed DNA/mRNA E6/E7 oncoproteins**
If **HPVT** is requested as a single test and is Positive/Detected, cervical cytology (PAPT) will be carried out from the same vial **without charge.**

☐ **TPCR** Thin Prep Chlamydia ☐ **TGON** Thin Prep Gonorrhoea

☐ **TCG** Thin Prep CT/GC

☐ **7 STI (DL12)**
If M.gen is detected, macrolide resistance testing will be carried out **without charge.**

Patient Ref/ID No.

PROFILES AND TESTS
*Please specify*

TAP3643B/23-11-20/V8

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 Fax: 020 7307 7374 E-mail: tdl@tdlpathology.com**
**Web: www.tdlpathology.com**