Laboratory Investigations Handbook Controlled
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PATHOLOGY LABORATORY INVESTIGATIONS HANDBOOK

SYNLAB Laboratory Services

www.synlab.co.uk

SYNLAB LABORATORY SERVICES

SYNLAB Laboratory Services is a nationwide provider of analytical services to clients in an extensive range of industry sectors.

From our specialised laboratory in Abergavenny, South Wales, we offer a comprehensive range of tests providing our clients with the advantage of a single supplier for all Pathology requirements. In addition to our exhaustive Pathology testing we maintain a complete Drugs of Abuse screening service that includes a secure Chain of Custody and laboratory confirmation testing.

SYNLAB Laboratory Services has an excellent track record for accuracy, reliability and professionalism. SYNLAB Laboratory Services is a UK Accreditation Service (UKAS) accredited testing laboratory against ISO / IEC 17025 and BS EN ISO 15189. We are also an approved supplier to Network Rail.

We offer a wide array of additional services including a nationwide sample collection network and a variety of learning and development courses, including Chain of Custody collection procedures.

CONTACT DETAILS

SYNLAB Laboratory Services
Gavenny Court
Brecon Road
Abergavenny
Monmouthshire NP7 7RX

Telephone: 01873 856688
Fax: 01873 858982
Website: www.synlab.co.uk
Email: help@synlab.co.uk
csfreshdesk@synlab.co.uk

Laboratory Director: Julie Davies
General Manager: Adam Stretton
Pathology Laboratory Lead: Kimberley Wheeler
Quality Manager: Andrew Hicks

Opening Hours: 08:30 - 17:00 Monday to Friday (excluding Bank Holidays).

TEST INFORMATION

The Laboratory Investigations Handbook test list contains the following information:

- Test Name
- Test Code
- Turnaround Time
- Sample Requirements

For more information about a specific test, please contact Customer Services.

CONTENTS

PATHOLOGY TESTS – INHOUSE TESTS

PATHOLOGY TESTS – REFERRAL TESTS

QUALITY & ACCREDITATION

Quality Management System (QMS)

The SYNLAB Laboratory Services Quality Department is responsible for the development, maintenance and continuous improvement of the Quality Management System and the implementation of the Quality Standards and the Quality Policy of SYNLAB Laboratory Services. The Quality Department is also responsible for the oversight of all activities ensuring the provision of a high quality analytical, interpretive, advisory and consultancy service that is responsive to the changing needs of our clients. Furthermore the Quality Department oversees the maintaining of a safe working environment, a highly skilled workforce and utilising up to date technology to deliver the right result on the right specimen from the right client that is accurate, properly interpreted and delivered within an appropriate timescale.

Our Accreditations

SYNLAB Laboratory Services strives to maintain the highest standards possible, as is evidenced by the accreditations held:

- UKAS BS EN ISO 15189 – UKAS Medical Testing Laboratory number 9301 – please refer to www.ukas.com for the current Schedule of Accreditation

The Pathology laboratory is assessed according to BS EN ISO 15189 for a specified scope of pathology testing. Click here for the full details of the scope of accredited testing.

For certain specialised laboratory investigations, samples are sent to referral laboratories (see page 14). Referral tests are identified on test reports as “Pathology Referral” and reference with “#”.

Our Pathology Services

SYNLAB Laboratory Services offers a variety of testing solutions, including:

- General and special biochemistry
- Endocrinology
- Haematology
- Occupational medicine
- Immunology
- Immuno-haematology
- Microbiology
- Parasitology
- Trace element analysis
- Virology

Training and Development

SYNLAB Laboratory Services is committed to the training and development of its staff, all of which undertake a comprehensive induction and training program.

This is complemented by annual competency assessments and mandatory training packages. Assessments of Competence are undertaken to ensure all new members of staff are quickly integrated into the laboratory not only perform safely and competently, but also to fully understand SYNLAB Laboratory Services' core values.

All practicing scientists are registered with the Health and Care Professions Council (HCPC) or other professional bodies relevant to their role and specialism. All HCPC registered scientists must undertake continuing professional development (CPD) to maintain fitness to practice.

Complaints Procedure

SYNLAB Laboratory Services consider a complaint to be an expression of dissatisfaction about any aspect of our service by a person who has been directly or indirectly involved in the service complained of. We take complaints seriously. We will respond to complaints effectively and deal with them fairly and thoroughly. All complaints will be treated in the strictest confidence.

Complaints can be made in person, by phone or in writing to any member of our team. A dedicated online Complaints and Feedback page exists to allow contact to SYNLAB Laboratory Services 24/7: https://humanmedicine.synlab.co.uk/pathology-services/customer-service/

In addition, if needed complaints can be emailed to help@synlab.co.uk - all complaints shall be acknowledged and an investigation initiated.

Protection of Personal Information

SYNLAB Laboratory Services commits to keep personal, sensitive information accurate, up to date and only store the minimum necessary and delete it when it is no longer required. We have effective safeguards in place to make sure personal information is kept secure and provide training to all staff who handle personal information on keeping user information safe.

Quality Assurance

SYNLAB Laboratory Services participates in relevant external quality assessment programmes. These schemes can be seen below:

- EQUALIS
- NEQAS
- WEQAS

Clinical and Scientific Advice

SYNLAB Laboratory Services is supported by skilled and experienced consultants and scientists. Clinical advice is available via the Laboratory, as required. Should you require clinical or scientific advise please contact our Customer Service team on 01873 856688 or help@synlab.co.uk.

HELPFUL ADVICE

SYNLAB Laboratory Services aim to provide you with the best possible service. To enable us to do that, please follow the advice below.

Sample Labelling Criteria

All specimens and request form labelling must contain three of the following four unique identifiers:

- First Name
- Surname
- Date of Birth
- Unique patient identifying number

Request Form Additional Information

In addition to the above, the following information is also important and should be added to the request form:

- Sample date and time
- Hospital / Clinic number (if applicable)
- Gender
- Details of the requestor and the location
- Request forms should be signed and dated by the individual taking the specimen

NOTE:

SYNLAB Laboratory Services places the highest priority on patient safety. Any samples received that do not adhere to these criteria may not be tested, and / or may experience delays in testing.

Specimen Acceptance Criteria

The most common cause for rejection of specimens, or delays in processing relate to incomplete or missing information. The following criteria are essential to ensure effective and efficient testing:

- Correct labelling (see Mandatory Labelling Criteria).
- Correctly filled samples i.e. not under or overfilled.
- Sample packaging – damaged / leaked samples cannot be analysed, please adhere to the relevant sample packaging guidelines. Please contact the laboratory for further details.
- Some samples will deteriorate over time, therefore should be sent to the laboratory without delay.
- Some samples may require the addition of a preservative, please refer to the Test Index or contact the laboratory for further information.
- Appropriate transport conditions, for example frozen specimens should be transported in a way that avoids them thawing. Please refer to the Test Index or contact the laboratory for further information.
- Requesting clinicians will be notified if a specimen has not been accepted due to any of the conditions listed. It is therefore essential that request forms contain appropriate contact information.
- If additional tests are requested to a sample already received, it might take extra time to process and, in the case of insufficient or deteriorated samples, might not be possible.

Immuno-Haematology (Blood Grouping)

SYNLAB Laboratory Services will only accept fully labeled handwritten requests for blood grouping.

Blood transfusion BCSH guidelines for the labelling of specimens and request forms require the following mandatory details for all blood transfusion specimens and requests:

- A handwritten specimen and fully completed request form (hand written or addressograph)
- Full name (correctly spelled)
- Date of birth
- Gender
- Date and time specimen was taken
- Name of phlebotomist on the blood tube and request form

Exceptions to Labelling Criteria

In exceptional circumstances, specimens may be particularly difficult to collect , or unique in nature. In the event that these are not labelled according to the required criteria, the Pathology Laboratory will endeavour to corroborate or locate the missing information, in agreement with the clinician requesting the investigation.

Sample Volumes

Under-filling or over-filling of specimen containers is a key cause of sample rejection. SYNLAB Laboratory Services will guide customers on required tube types and volumes. This may require multiple tubes from the same patient.

Please ensure that all tubes supplied are correctly filled to the appropriate line. If in doubt, please contact the laboratory.

Sample Retention Times

SYNLAB Laboratory Services conforms to the Royal College of Pathologists recommendations for sample retention times. In summary, EDTA samples are kept for 7 days, serum samples are kept for 2-3 weeks (frozen) and urine samples are kept for 7 days, all after the final report has been released.

Additional Requests

We cannot accept oral requests for tests. If you have a query or require additional tests, please contact our customer services team: help@synlab.co.uk

Turnaround Times

Turnaround time (TAT) is defined as the period between the laboratory receiving the specimen, and reporting of result data. Where batching of results is required by customers, TAT is defined as the working days time up to the availability of the first results for a given analyte or test.

SYNLAB Laboratory Services will always strive to exceed our customer's expectations and produce diagnostic data well within the TAT agreed. However, issues outside of the Laboratory's control may cause delays to the TAT, the Laboratory will always endeavour to report as quickly as possible.

Factors Affecting Sample Results

This Handbook includes information on the choice of anticoagulants to use and analyte stability in the sample matrix for each analyte (see the Test Index). International standardisation bodies, such as the International Standards Organisation (ISO), have issued standards for type and concentrations of anticoagulants to be used for venous blood samples. These can be found in Standards such as *ISO 6710:2017 Single-use containers for human venous blood specimen collection*.

Preanalytical Variables

It is widely understood that the majority of errors in diagnostic testing are caused by factors in the preanalytical phase of testing, i.e. during collection or pre-testing transport and storage. It is critical the preanaytical handling of specimens is well controlled to minimise poor quality and rejected specimens. Whilst we are not in direct control for the process of specimen collection, can can advise in best practice to reduce the risk of error. Some limited guidance is given by the following bullet points.

- Patient preparation – prior to collecting specimens, certain patient variables need to be considered. Factors such as fasting, time of day or resting prior to collection may need to be considered by the requesting clinician.
- Selecting the site – selecting the appropriate site for venipuncture can contribute to a better quality sample. The preferred site is the antecubital fossa of the arm.
- Site preparation – prior to venipuncture, the site should be properly disinfected. A suitable skin disinfectant for this purpose should be selected, and applied according to manufacturer's instructions and international best practices. This includes application time and air dry time, as applicable.
- Haemolysis can affect the results of a range of analytes, and is a key cause of chemistry specimen rejecton. The level of haemolysis can be reduced by careful attention to phlebotomy technique, sample handling and transport conditions. Where the degree of haemolysis is demonstrated to affect the accuracy of a result, the Laboratory will not be able to report the result.
- Delays in transportation in non-centrifuged chemistry samples can lead to leakage of some analytes from blood cells with potassium, chloride, lactate dehydrogenase, magnesium and phosphate ebing the most affected. The laboratory may not report results on specimens where this is the case.
- Tourniquet application and time – time of tourniquet application may cause interferences or inaccuracies in samples, which increase with longer application time. Generally, tourniquets should only be applied where required, for the minimum possible time (generally less than 1 minute).
- Order of draw – the order that tubes are collected in may have an impact caused by carryover of additives between tubes. A reccomended Order of Draw to minimise this issue is given in this Handbook.
- Proper tube mixing – all tubes with additives need to be inverted to mix the additive evenly with the blood. The additives in these tubes must be mixed completely with the blood or urine specimen to function. Always follow the manufacturer's Instructions for Use on number of inversions to correctly mix the specimen. Be sure that tubes are not being shaken vigorously to mix, as this can lead to a haemolysed sample.
- Correct specimen volume – all blood collection tubes need to be filled to the correct volume. This will ensure the proper amount of blood for the amount of additive in the tube (blood to additive ratio).
- Expiration dates should also be checked on the tubes. Expired tubes should not be used.
- Serum specimens, namely red top tubes and yellow-topped gel tubes, need to clot completely prior to centrifugation and processing. Blood specimens in red top tubes should clot for 45 to 60 minutes and

those in yellow-topped tubes should be allowed to clot for 30 minutes to ensure complete clot formation. Blood from patients who are receiving anticoagulant therapy, such as heparin or coumadin, may take longer to clot.

- Tubes should be allowed to clot at room temperature, according to Manufacturer's instructions.
- Blood specimens collected in plasma tubes, such as the plain heparinized green top tubes and tubes with heparin and gel, do not require clotting prior to centrifugation. This allows the tube of blood to be drawn, mixed and centrifuged immediately, resulting in a quicker turnaround time for test results.
- For **FIT analysis** - there are some oral medications such as Aspirin, Corticosteroids, Reserpine Phenylbutazone, Indomethacin etc that can cause gastrointestinal irritation and occult bleeding in some patients. Ascorbic acid (Vitamin C) taken in units greater than 250mg per day may cause false negative results. Iron or preparations containing Iron may cause false positive results. Two days prior to and during the test period, such medication should be avoided. Patients with bleeding from other conditions such as haemorrhoids, dental work, constipation or menstrual bleeding should not be tested while such conditions are present. Do not collect a specimen if discontinuing prescription medications.
- **Full blood count (FBC)** samples are acceptable up to 3 days post venipuncture however certain parameters, e.g. WBC differential, maybe affected or rejected due to delayed analysis.
- Under-filling the EDTA blood collection tube can lead to erroneously low blood cell counts and hematocrits, morphologic changes to RBCs, and staining alteration. Over-filling may lead to erroneous platelet results.
- **Urine specimens** for **microbiology analysis** must be taken into specialised containers, with boric acid additive to stabilise the bacteria. These tubes may only be used for microbiology, not other urinalysis. Specimens for urine microbiology analysis should be collected using aseptic technique and international best practices such as the mid-stream clean-catch.
- Where a **malaria screen (film and antigen)** is required, an EDTA sample must be collected and sent to the laboratory within 24 hours. Additionally, the patient's travel history within the last 6 months, return date and whether the patient is symptomatic, must be provided. ***Please contact the lab to arrange a courier.***

Centrifugation

- Centrifugation to stabilise specimens is generally performed at the Laboratory. However it may be beneficial or desired to centrifuge the specimen before sending. In these circumstances, please contact the Laboratory for guidance on the type of centrifuge required, and the centrifugation conditions.

Handling of Blood Specimens

- Certain chemistry analytes will require the tube of blood to be chilled after collection in order to maintain the stability of the analyte. Where samples require temperature control, please contact the Laboratory for storage and shipping instructions.

- Known high risk samples sent to the laboratory should be labelled as such on the blood sample and the request form stating the known risk.

Specimen Transport / Sample Integrity

Please ensure that diagnostic specimens are packaged to meet the UN Packing Instruction P650 / UN3373. In summary this involves the sample container (primary packaging) being placed into plastic container / transporter / clam shell (secondary packaging) in such a way that, under normal conditions of transport, they cannot break, be punctured or leak their contents into the secondary packaging.

Secondary packages must be secured in rigid outer packaging. SYNLAB Laboratory Services provides suitable packing and self-addressed envelopes, on request.

See HSE guidance at www.hse.gov.uk/biosafety/biologagents.pdf for further information.

Laboratory Results

SYNLAB Laboratory Services has a number options available to deliver results, these include, postal, email (direct or via encrypted web portal (results only available for 14 days)), SFTP (secure file transfer protocol), HL7 and AWS (Amazon Web Services) connections direct to customer's patient administration systems.

All protocols must be agreed with the Laboratory in advance of testing.

Consumables

In addition to our Request Forms, SYNLAB Laboratory Services can provide a range of consumables including blood tubes, sample bags and postal packs. Please email help@synlab.co.uk for further information.

REFERENCES

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- Langsted A, Freiberg JJ, Nordestgaard BG. Fasting and non-fasting lipid levels: influence of normal food intake on lipids, lipoproteins, apolipoproteins, and cardiovascular risk prediction. Circulation. 2008 Nov 11;118(20):2047-56.
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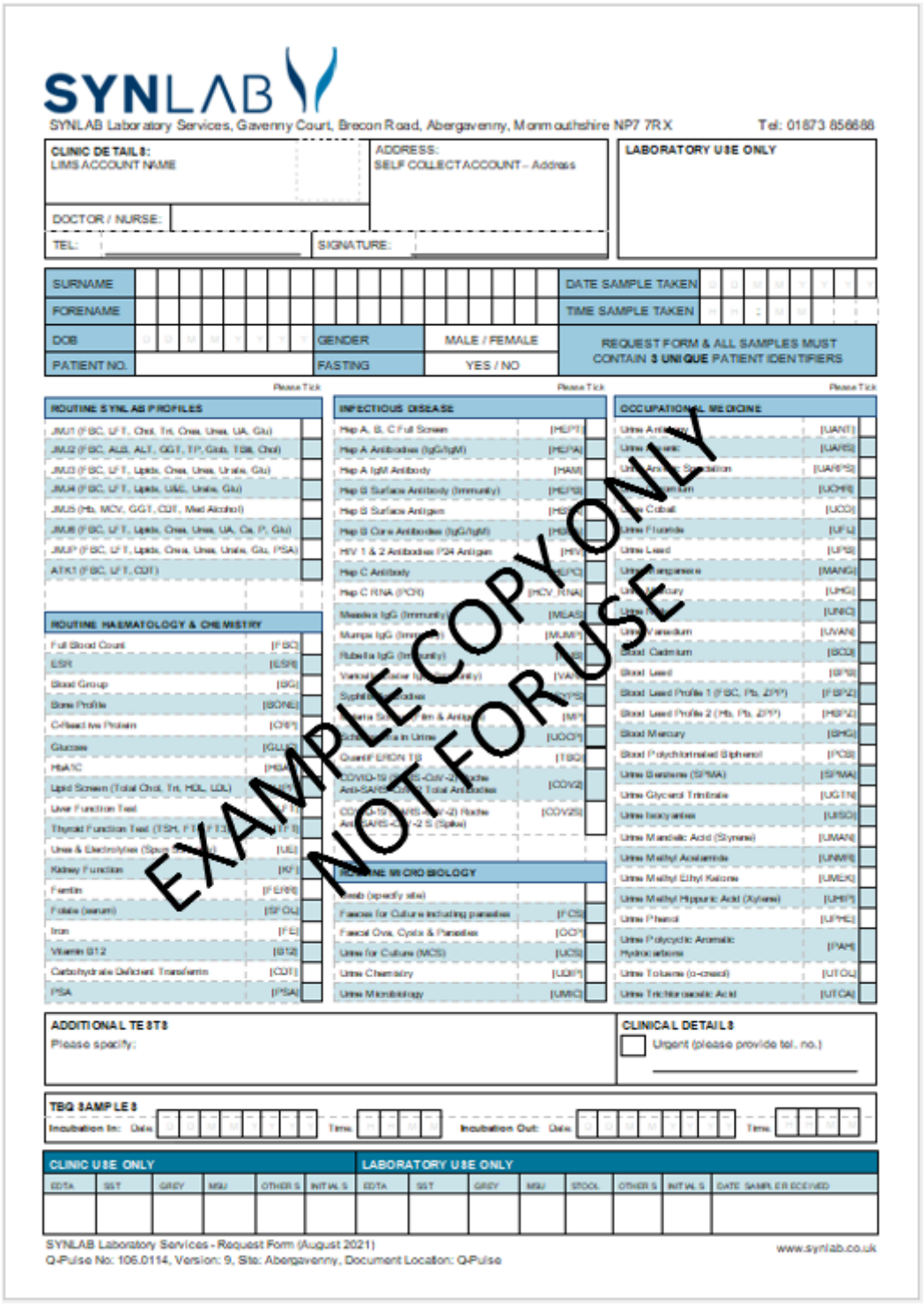
PATHOLOGY REQUEST FORM

Each sample returned to the laboratory must be accompanied by an official SYNLAB Laboratory Services Request Form, unless an alternative electronic procedure has been agreed in advance.

Below is an example of SYNLAB Laboratory Services' Request Form – please contact Customer Services to ensure you are using the latest version – samples maybe rejected or delayed if incorrect Request Forms are used.



SYNLAB

SYNLAB Laboratory Services, Gaverny Court, Brecon Road, Abergavenny, Monmouthshire NP7 7RX Tel: 01873 856688

CLINIC DETAILS: LIMS ACCOUNT NAME

ADDRESS: SELF COLLECT ACCOUNT – Address

LABORATORY USE ONLY

DOCTOR / NURSE:

TEL: SIGNATURE:

SURNAME | DATE SAMPLE TAKEN

FORENAME | TIME SAMPLE TAKEN

DOB | GENDER | MALE / FEMALE

PATIENT NO. | FASTING | YES / NO

REQUEST FORM & ALL SAMPLES MUST CONTAIN 3 UNIQUE PATIENT IDENTIFIERS

Please Tick

ROUTINE SYNLAB PROFILES

JMU1 (FBC, LFT, Chol, Trl, Urea, Urea, UA, Glu)
JMU2 (FBC, ALB, ALT, GGT, TP, Glob, TBil, Chol)
JMU3 (FBC, LFT, Lipids, Urea, Urea, Urate, Glu)
JMU4 (FBC, LFT, Lipids, U&E, Urate, Glu)
JMU5 (Hb, MCV, GGT, CDT, Med Alcohol)
JMU6 (FBC, LFT, Lipids, Urea, Urea, UA, Ca, P, Glu)
JMU7 (FBC, LFT, Lipids, Urea, Urea, Urate, Glu, PSA)
ATK1 (FBC, LFT, CDT)

ROUTINE HAEMATOLOGY & CHEMISTRY

Full Blood Count [FBC]
ESR [ESR]
Blood Group [BG]
Bone Profile [BONE]
C-Reactive Protein [CRP]
Glucose [GLU]
HbA1C [HBA]
Lipid Screen (Total Chol, Trl, HDL, LDL) [LIP]
Liver Function Test [LFT]
Thyroid Function Test (TSH, FT4, FT3) [THY]
Urea & Electrolytes (Sprot, Urea) [UE]
Kidney Function [KF]
Ferritin [FERR]
Folate (serum) [SFOL]
Iron [FE]
Vitamin B12 [B12]
Carbohydrate Deficient Transferrin [CDT]
PSA [PSA]

INFECTIOUS DISEASE

Hep A, B, C Full Screen [HEPT]
Hep A Antibodies (IgG/IgM) [HEPA]
Hep A IgM Antibody [HAM]
Hep B Surface Antibody (Immunity) [HEPS]
Hep B Surface Antigen [HEPB]
Hep B Core Antibodies (IgG/IgM) [HEPC]
HIV 1 & 2 Antibodies P24 Antigen [HIV]
Hep C Antibody [HEPC]
Hep C RNA (PCR) [HCV_RNA]
Measles IgG (Immunity) [MEAS]
Mumps IgG (Immunity) [MUMP]
Rubella IgG (Immunity) [RUB]
Varicella Zoster IgG (Immunity) [VARI]
Syphilis Antibodies [SYPH]
Malaria Screen & Antigen [MP]
Schistosomiasis in Urine [UOCP]
QuantiFERON TB [TBG]
COVID-19 (SARS-CoV-2) Roche Anti-SARS-CoV-2 Total Antibodies [COV2]
COVID-19 (SARS-CoV-2) Roche Anti-SARS-CoV-2 S (Spike) [COV2S]

ROUTINE MICROBIOLOGY

Swab (specify site)
Faeces for Culture including parasites [FCS]
Faecal Ova, Cysts & Parasites [OCP]
Urine for Culture (MCS) [UCS]
Urine Chemistry [UDIP]
Urine Microbiology [UMIC]

OCCUPATIONAL MEDICINE

Urine Arsenic [UAR]
Urine Arsenic Speciation [UARSP]
Urine Chromium [UCHR]
Urine Cobalt [UCO]
Urine Fluoride [UFLI]
Urine Lead [UPB]
Urine Manganese [MANG]
Urine Mercury [UHG]
Urine Nickel [UNIC]
Urine Vanadium [UVAN]
Blood Cadmium [BCD]
Blood Lead [BPB]
Blood Lead Profile 1 (FBC, Hb, ZPP) [FBP1]
Blood Lead Profile 2 (Hb, Hb, ZPP) [HBP2]
Blood Mercury [BHG]
Blood Polychlorinated Biphenyl [PCB]
Urine Benzene (SPMA) [SPMA]
Urine Glycerol Trinitrate [UGTN]
Urine Isocyanates [USO]
Urine Mandelic Acid (Styrene) [UMAN]
Urine Methyl Acetamide [UMM]
Urine Methyl Ethyl Ketone [UMEK]
Urine Methyl Hippuric Acid (Xylene) [UMH]
Urine Phenol [UPHE]
Urine Polycyclic Aromatic Hydrocarbons [PAH]
Urine Toluene (o-cresol) [UTOL]
Urine Trichloroacetic Acid [UTCA]

EXAMPLE COPY ONLY NOT FOR USE

ADDITIONAL TESTS
Please specify:

CLINICAL DETAILS
Urgent (please provide tel. no.)

TBQ SAMPLES
Incubation In: Date Time Incubation Out: Date Time

CLINIC USE ONLY						LABORATORY USE ONLY							
EDTA	SST	GREY	MSU	OTHER S	INITIAL S	EDTA	SST	GREY	MSU	STOOL	OTHER S	INITIAL S	DATE SAMPLE RECEIVED

SYNLAB Laboratory Services - Request Form (August 2021)
Q-Pulse No: 106.0114, Version: 9, Site: Abergavenny, Document Location: Q-Pulse
www.synlab.co.uk

REFERRAL LABORATORIES

Although SYNLAB Laboratory Services has the facilities to perform as much testing in-house as possible, there are instances where specialised tests will need to be sent to laboratories that have the specific expertise with the methods used. Wherever possible we endeavour to use UKAS accredited laboratories.

The following is a list of approved referral laboratories that SYNLAB Laboratory Services use when required:

REFERRAL LABORATORIES		
Pathology First Basildon Hospital Basildon SS16 5NL	Health and Safety Laboratory Harpur Hill Buxton SK17 9JN	Synnovis Francis House 9 King's Head Yard London SE1 1NA
University Hospital of Wales Heath Park Cardiff CF14 4XW	Marchwood Scientific Services Ltd 371 Millbrook Road West Southampton Hampshire SO15 0HW	Micropathology Ltd University of Warwick Science Park Venuture Centre Sir William Lyons Road Coventry CV4 7EZ
The Doctors Laboratory The Halo Building 1 Mabledon Place London	Nevill Hall Hospital Aneurin Bevan Health Board Brecon Road Abergavenny NP7 7EG	Southwest Pathology Services Lisieux Way Taunton TA1 2LB
VIAPATH TDM Section Toxicology Unit, Bessemer Wing King's College Hospital London SE5 9RS		

Please refer to www.ukas.com or click here for our Pathology laboratory's Scope of Testing and Schedule of Accreditation, UKAS Medical Testing Laboratory 9301.

SAMPLE TYPES

Please note all sample collection tubes / devices used must be within their expiry date on arrival at the laboratory – samples received in a tube / device past its expiry date will be rejected.

TUBE TYPE / CODE	DESCRIPTION
●	EDTA
●	SST
●	Oxalate
●	Trace Metal
X	Special container – contact the laboratory
RF	Random Faeces
RU	Random Urine
FCRU	First Catch Random Urine
CU	30ml Aliquot from a 24 hour Urine Collection – State Total Volume
PCR	PCR Swab for Infection Screening
FIT	FIT Collection Picker
MSU	Mid-stream urine

SAMPLE REQUIREMENTS

#	SAMPLE REQUIREMENTS
1	Please contact the laboratory for special sample containers / instructions / tubes
2	Please send to the laboratory ASAP
3	For QuantiFERON Gold analysis: • Samples required to be incubated as soon as taken (within 16 hours of collection) or arrive in the laboratory within 16 hours • They must be incubated for a period of 16-24 hours. • Incubation should be 37ºC ± 1ºC • Once incubated they are stable for 3 days. • Centrifuging will allow samples to be stable for 28 days if then kept refrigerated. An ideal centrifuge time is 2000-3000 x g RCF for 15 minutes.
4	Please provide clinical history
5	Please protect the sample from light
6	Please provide details of the patient's travel history
7	Please collect the sample at the end of exposure
8	Please ensure the sample label is hand written with forename, surname and date of birth
9	Samples <24 hours old. Consider CRP as an alternative if trnasport likely to be outside if this requirement
10	HIV viral load requires 2 EDTA samples

PATHOLOGY LABORATORY: INHOUSE TESTS

SYNLAB Laboratory Services' Pathology laboratory operates under ISO 15189 and is regularly audited in accordance with this by UKAS. Please refer to www.ukas.com or click here for our Pathology laboratory's Scope of Testing and Schedule of Accreditation, UKAS Medical Testing Laboratory 9301.

PATHOLOGY AND OCCUPATIONAL HEALTH PROFILES

PROFILE	TAT	EDTA (4mL only) (PURPLE)	SST (YELLOW)	OXALATE (GREY)	COMMENTS
ATK1	3 days	FBC	LFT, CDT	N/A	N/A
BONE		N/A	CREA, UREA, ALP, TP, ALB, P, CA, GLOB, UA	N/A	SST must be spun / Same day for P
FBC	1 day	HB, WBC, RBC, PCV, MCV, MCHC, MCH, PLTS, NEUT, LYMP, MONO, BASO, EOSI	N/A	N/A	N/A
LFT	1 day	N/A	ALB, ALP, ALT, AST, GGT, GLOB, TBIL, TP	N/A	N/A
LIPP	1 day	N/A	CHOL, HDL, LDL, TRIG	N/A	N/A
FBPZ	3 days	FBC, BPB, ZPP	N/A	N/A	N/A
HBPZ	3 days	HB, BPB, ZPP	N/A	N/A	N/A
JMJ1	1 day	FBC	CHOL, CREA, LFT, TRIG, UA, UREA	GLUC	N/A
JMJ2	1 day	FBC	ALB, ALP, ALT, CHOL, GGT, GLOB, TBIL, TP	N/A	N/A
JMJ3	1 day	FBC	CREA, LIPP, LFT, UA, UREA	GLUC	N/A
JMJ4	1 day	FBC	CREA, LIPP, LFT, NA, K, UA, UREA	GLUC	SST must be spun / Same day for K
JMJ5	3 days	HB, MCV	GGT, MALC, CDT	N/A	N/A
JMJ6	1 day	FBC	CA, CREA, LFT, LIPP, P, UA, UREA	GLUC	SST must be spun / Same day for P
JMJP	1 day	FBC	CREA, LIPP, LFT, UA, UREA, PSA	GLUC	N/A
KF	1 day	N/A	CREA, UREA	N/A	N/A
HEPT	4 day	N/A	HEPA, HEPB, HEPC, HBSA, HBCA, ANTI-HBE, HEBAG	N/A	N/A

PROFILE	TAT	EDTA (4mL only) (PURPLE)	SST (YELLOW)	OXALATE (GREY)	COMMENTS
TFT	1 day	N/A	FREE T3, FREE T4, TSH	N/A	N/A
TIBC	1 day	N/A	TIBC, UIBC, FE, TRANS_SAT	N/A	
UE	1 day	CREA, NA, K, UREA	N/A	N/A	SST must be spun / Same day for K

BIOCHEMISTRY & IMMUNOLOGY

TEST	CODE	TAT	SAMPLE REQUIREMENTS
Albumin	ALB	1 day	●
Alkaline Phosphatase (ALP)	ALP	1 day	●
ALT (Alanine Aminotransferase)	ALT	1 day	●
AST (SGOT)	AST	1 day	●
Bicarbonate	CO2	1 day	●
Bilirubin (Direct)	DBIL	1 day	●
Bilirubin (Total / Indirect)	TBIL	1 day	●
C Reactive Protein	CRP	1 day	●
C Reactive Protein (High Sensitivity)	CRP_HS	1 day	●
Calcium	CA	1 day	●
Carbohydrate Deficient Transferrin (CDT)	CDT	3 days	●
Chloride	CL	1 day	●
Cholesterol	CHOL	1 day	●
Creatine Kinase	CPK	1 day	●
Creatinine	CREA	1 day	●
Creatinine (Urine)	URCR	1 day	CU
Faecal Immunochemical Test (FIT)ferritin	FIT	3 days	FIT
Ferritin	FERR	1 day	●
Folate (Serum)	SFOL	1 day	●
Free T3	FT3	1 day	●
Free T4	FT4	1 day	●
Gamma Glutamyl Transferase (GGT)	GGT	1 day	●
Globulin	GLOB	1 day	●
Glucose	GLUC	1 day	●
HbA1c (Glycosylated Hbiron	HBA1C	1 day	●
HDL Cholesterol	HDLP	1 day	●
Iron	FE	1 day	●
Lactate Dehydrogenase (LDH)	LDH	1 day	●
Magnesium (Serum)	MG	1 day	●

TEST	CODE	TAT	SAMPLE REQUIREMENTS
Phosphate	P	1 day	●

TEST	CODE	TAT	SAMPLE REQUIREMENTS
Potassium	K	1 day	●
Free PSA	FPSA	1 day	●
Prostate Specific Antigen (Total)	PSA	1 day	●
Protein Total (Blood)	TP	1 day	●
Sodium	NA	1 day	●
Testosterone	TEST	1 day	●
Transferrin	TRAN	1 day	●
Triglycerides	TRIG	1 day	●
TSH	TSH	1 day	●
Urate (Uric Acid)	UA	1 day	●
Urea	UREA	1 day	●
Vitamin B12 (serum)	B12	1 day	●
Vitamin B12 Active	ACT B12	1 day	●
Vitamin D (25-OH)	VITD	1 day	●

HAEMATOLOGY

TEST	CODE	TAT	SAMPLE REQUIREMENTS
Blood Group	BG	3 days	● [8]
ESR (Automated)	ESR	1 day	● [9]
Full Blood Count	FBC	1 day	●
Haemoglobin	HB	1 day	●
Reticulocyte Count	RETI	1 day	●
Zinc Protoporphyrin (ZPP)	ZPP	3 days	●[5]

MICROBIOLOGY & VIROLOGY

TEST	CODE	TAT	SAMPLE REQUIREMENTS
Hepatitis B ‘e’ Antigen and Antibody	HEPE	1 day	●
Hepatitis B Core Antibodies (IgG / IgM)	HBCA	1 day	●
Hepatitis B Immunity (Surface Antibody IgG)	HEPB	1 day	●
Hepatitis B sAg	HBSA	1 day	●
Hepatitis C Antibodies	HEPC	1 day	●
HIV Screening: HIV1&2 Abs/p24 Ag	HIV	1 day	●
Measles Antibodies (IgG) Immunity	MEAS	5 days	●
Mumps Antibodies (IgG)	MUMP	5 days	●
QuantiFERON® Gold (TB Assay)	TBQ	3 days	X [1, 3]
Rubella Antibody (IgG)	RUB	1 day	●
Syphilis IgG / IgM	SYPS	1 day	●
Urine (Microscopy & Dipstick Only)	UMIC	1 day	MSU
Urine Chemistry (Basic)	UDIP	1 day	RU
Varicella zoster Antibodies (IgG)	VARI	5 days	●

OCCUPATION MEDICINE

TEST	CODE	TAT	SAMPLE REQUIREMENTS
Benzene (SPMA)	SPMA	5 days	RU [7]
Lead (Blood)	BPB	3 days	●
Lead Profile 1 (Hb, ZPP, Lead)	HPBZ	3 days	●[5]
Lead Profile 2 (FBC, ZPP, Lead)	FBPZ	3 days	●[5]

PATHOLOGY LABORATORY: REFERRAL TESTS

BIOCHEMISTRY & IMMUNOLOGY

TEST	CODE	TAT	SAMPLE REQUIREMENTS
Alcohol (Medical) [Do not use alcohol swab prior to sample taking]	MALC	4 days	●
Aluminium (Urine)	UAL	15 days	RU
Amylase	AMY	4 days	●
Anti CCP Antibodies (RF)	ACCP	5 days	●
Antimony (Creatinine Ratio)anti	UANT	13 days	RU
Antinuclear Antibodies (titre & pattern)	ANA	5 days	●
ANCA (Anti-Neutrophil Cytoplasmic Abs)	ANCA	5 days	●
BNP (NT- pro BNP)	BNP	4 days	●
CA 125	C125	4 days	●
Carcino Embryonic Antigen	CEA	4 days	●
CCP Antibodies (RF)	ACCP	5 days	●
Cholinesterase (Serum / Pseudo)	SCHO	4 days	●
Coeliac / Gluten Sensitivity Profile	ATTG	5 days	●
Cortisol	CORT	4 days	●
Cotinine (serum)	SCOT	7 days	●
Folate (Red Cell)	RBCF	5 days	●
FSH	FSH	4 days	●
G-6-PD	G6PD	5 days	●
Immunoglobulin E – Total	IGE	4 days	●
Immunoglobulin A	IGA	4 days	●
Immunoglobulin G	IGG	4 days	●
Immunoglobulin M	IGM	4 days	●
Insulin	INSU	4 days	●
Lipase	LIPA	4 days	●
Lithium (take 12 hrs after dose)	LI	4 days	●
Luteinising Hormone (LH)	LH	4 days	●

TEST	CODE	TAT	SAMPLE REQUIREMENTS
Microalbumin (Urine)	MIAL	4 days	RU
Oestradiol (E2)	OEST	4 days	●
Olanzapine	OLANZ	8 days	● [2]
Paracetamol	PCET	4 days	●
Parathyroid Hormone (Whole)	PTHI	4 days	● [2]
Peth (Phosphatidylethanol)	PETH	10 days	●
Pregnancy Test (Urine)	PREG	4 days	RU
Progesterone	PROG	4 days	●
Prolactin	PROL	4 days	●
Protein / Creatinine Ratio (Urine)	UCPR	4 days	RU
Sex Hormone Binding Globulin	SHBG	4 days	●
Smooth Muscle Antibodies	SMA	5 days	●
Testosterone (Free)	FTES	6 days	●
Toluene (Urine)	UTOL	15 days	RU

HAEMATOLOGY

TEST	CODE	TAT	SAMPLE REQUIREMENTS
Folate (Red Cell)	RBCF	5 days	●
Malarial Antibodies	MFAT	14 days	● [4, 6]
Malarial Parasites	MP	5 day	● [2, 4, 6]
Parvovirus Antibodies (IgM)	PARV	5 days	●
Paul Bunnell (Monospot)	PB	4 days	● or ●

MICROBIOLOGY & VIROLOGY

TEST	CODE	TAT	SAMPLE REQUIREMENTS
Chlamydia / Gonorrhoea (Urine)	CCG	5 days	FCRU
Cytomegalovirus (IgG / IgM) Antibodies	CMV	4 days	●
Filaria (Lymphatic and Non- Lymphatic) Antibodies	FIFA	15 days	●
H. pylori Antibodies (IgG)	HELI	5 days	●
Hepatitis A (IgM)	HAM	4 days	●
Hepatitis B sAg Confirmation	HBSC	15 days	●
Hepatitis C Antigen (Early detection)	HCAG	4 days	●
Hepatitis C Genotype	CGEN	8 days	● or ●
Hepatitis C Quantification (Viral Load – 50 copies / ml)	HCV_RNA	8 days	●
Hepatitis B DNA (viral load)	HBVL	7 day	●
HIV 1 Quantitation (viral load by PCR)	IDSQ	8 days	● or ● [10]

TEST	CODE	TAT	SAMPLE REQUIREMENTS
Legionella Antibodies	LEGO	5 days	●
Legionella Urine Antigen	LEGA	4 days	RU
Stool for OCP and Culture	FCS	6 days	RF
Stool for OVA Cysts & Parasites	OCP	5 days	RF
Tetanus Screen	TETA	8 days	●
Urine for Microscopy and Culture	UCS	5 days	RU

OCCUPATION MEDICINE

TEST	CODE	TAT	SAMPLE REQUIREMENTS
Aluminium (Urine)	UAL	10 days	RU
Antimony Creat / ratio	UANT	13 days	RU
Arsenic (Blood)	BARS	10 days	●
Arsenic Creatinine Ratio	UARS	10 days	RU
Arsenic Speciation (Urine)	UARSP	25 days	RU [7]
Beryllium Creatinine Ratio	UBE	25 days	RU [7]
Cadmium Creatinine Ratio	UCD	10 days	RU
Cholinesterase (Serum / Pseudo)	SCHO	4 days	●
Chromium Creatinine Ratio	UCHR	10 days	RU
Cobalt Creatinine Ratio	UCO	10 days	RU
Copper Creatinine Ratio	UCU	10 days	RU
Manganese Creatinine Ratio	MANG	10 days	RU [7]
Mercury (Blood)	BHG	10 days	●
Mercury Creatinine Ratio	UHG	10 days	RU [7]
Methyl Ethyl Ketone	UMEK	25 days	RU [7]
Methyl Hippuric Acid	UHIP	25 days	RU [7]
Nickel Creatinine Ratio	UNIC	15 days	RU [7]
Poly Aromatic Hydrocarbon (PAH)	PAH	25 days	RU [7]
Polychlorinated Biphenol (PCB)	PCB	20 days	●● [7]
Selenium (Serum/Plasma)	BSEL	10 days	● or ●
Selenium (Urine)	USEL	10 days	RU [7]
Urine Mandelic Acid (Styrene)	UMAN	3 months	RU [7]
Urine Isocyantes (containers available from stores)	UISO	25 days	X, Urine [7]
Urine Toluene (o'cresol)	UTOL	25 days	RU [7]
Vanadium Creatinine Ratio	UVAN	25 days	RU [7]

APPENDIX

BLOOD DRAW
ORDER OF DRAW FOR MULTIPLE TUBE COLLECTIONS

Below is an example of the Blood Draw guide provided by SYNLAB Laboratory Services - please contact the Customer Services help@synlab.co.uk for the latest version.

SYNLAB

BLOOD DRAW

ORDER OF DRAW FOR MULTIPLE TUBE COLLECTIONS

CLOSURE COLOUR	COLLECTION TUBE	MIX BY INVERSION
	SST Gel Separator Tube	5 times
	Serum Tube	5 times (plastic) / none (glass)
	Rapid Serum Tube (RST)	8 to 10 times
	PST Gel Separator Tube with Heparin	8 to 10 times
	Heparin Tube	8 to 10 times
	EDTA Tube	8 to 10 times
	Fluoride (glucose) Tube	8 to 10 times

Q-Pulse No: 106.0114 / Version: 2
Site: Abergavenny, Document Location: Q-Pulse

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