In-House

**Purpose:** To ensure availability of user information on the repertoire of tests available

**Materials:** N/A **Safety Precautions:** Universal precautions

**Authorised By:** Sinead Cronnolly **Associated SOP:** LP-GEN-0016

Procedure:

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| **Test** | **Specimen**  **Container** | **Minimum**  **Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory**  **Department** |
| 5-HIAA Urine | 24 Hour Pre- Acidified Urine | 5mL | <50 µmol/24hours | 288 hours  Urgent samples prior arrangement by phone to 01- 8092351. |  | 5HIAA | Chemical Pathology |
| 5-HIAA Urine (Childrens) | Freshly voided random urine | 5mL | Children’s age specific ranges are quoted on all reports | 288 hours  Urgent samples prior arrangement by phone to 01- 8092351. | Brought to the laboratory IMMEDIATELY  for acidification | C5HIAA | Chemical Pathology |
| 8mg  Dexamethazone Suppression Test | See Labels | See Labels | See individual tests | See individual tests |  | 8MGDST | Chemical Pathology |
| ABO Antibody titration | 7.5ml EDTA  Specimen. | Minimum  volume of 2.5ml | Mon-Fri 0800hrs-1700hrs Sat 0900hrs-1300hrs. | Approx 2 hours  (where time permits) |  | TITR | Blood Transfusion |
| Acute Allergic Reaction  Investigation | Serum | 4.9ml |  |  |  | AARI | Immunology |
| ACTH | EDTA Plasma  (Blue Cap) | 4.9mL | 7.2 – 63.3 pg/ml | 10days |  | ACTH | Chemical  Pathology |

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| Activated protein C resistance | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line | Negative | 4 weeks. | Batch tested | APCR | Coagulation |
| Acute Leukaemia Screen  Acute Leukaemia Panel  Blast count | EDTA (pink capped)  Sodium Heparin (orange capped- BMA)  with 1ml RPMI. | 2-3ml | N/A | Written report: 10 working days Verbal report: 24 hours | Must be arranged in advance with prior consultation with the lab. Containers are only obtained from  the lab. | AL | Haematology |
| EDTA samples must  be <24 hours old |
| Sodium Heparin (orange capped – BMA) with 1mL RPMI must be < 48  hours old |
| Acute Renal Failure  Screen | Serum | 4.9ml |  |  |  | ARF SCR | Immunology |
| Adrenal Vein  Sampling | See Labels | See Labels | See individual tests | See individual  tests |  | AVS | Chemical  Pathology |
| Adalimumab Levels  and Antibodies | Serum | 4.9ml |  |  | Referral Test | ADALIM | Immunology |
| Alanine  Transaminase ALT | Lithium  Heparin | 4.9ml | Female: < 33 I.U/L  Male: < 41 I.U/L | Routine: 2.5hrs  STAT: 2hrs |  | ALT | Chemical  Pathology |
| Albumin | Lithium  Heparin | 4.9ml | 35 - 52 g/L | Routine: 2.5hrs  STAT: 2hrs |  | ALB | Chemical  Pathology |

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| Albumin Creatinine Ratio (Urine) | MSU | 25ml | Female: 0.0 – 3.5mg/mmol Male: 0.0 – 2.5mg/mmol/L | Routine: 24hrs STAT: 2.5hrs |  | UALB | Chemical Pathology |
| Alcohol (ETOH)  Plasma | Plasma  (Yellow Cap) | 2.7ml | Units: mg% | Routine: 2.5hrs  STAT: 2hrs |  | ETOH | Chemical  Pathology |
| Alcohol (ETOH)  urine | MSU | 25ml | Qualitative | Temporarily  outsourced. 5 days |  | URETOH | Chemical  Pathology |
| Aldosterone | EDTA  (Large Pink Cap) | 7.5mL | Female: 0 – 1179pmol/L Male: 0 – 670pmol/L | 20 days |  | ALDO | Chemical Pathology |
| Alkaline  Phosphatase | Lithium  Heparin | 4.9ml | Female: 35 – 104 I.U/L  Male: 40 – 130 I.U/L | Routine: 2.5hrs  STAT: 2hrs |  | ALK | Chemical  Pathology |
| Alpha Fetoprotein  (blood) | Serum | 4.9ml | 0 – 5.8 (kU/L) | 3 days |  | AFP | Chemical  Pathology |
| Alpha-1-Antitrypsin | Plasma | 4.9ml | 0.9-2.0 g/L | 72 hours |  | AAT | Chemical  Pathology |
| Amphetamine | Spot urine | N/A | N/A | Temporarily outsourced. 5 days | Qualitative test only: positive / not  detected |  | Toxicology |
| Amylase | Lithium Heparin | 4.9ml | 28 – 100 I.U/L | Routine: 2.5hrs STAT: 2hrs |  | AMY | Chemical Pathology |
| Amylase - Spot  Urine Sample | MSU | 25ml | 16 – 491 I.U/L | Routine: 2.5hrs  STAT: 2hrs |  | USAMY | Chemical  Pathology |
| Amylase (Fluid) | Plain | 5ml |  | Routine: 2.5hrs  STAT: 2hrs |  | FLAMY | Chemical  Pathology |
| Angiotensin  Converting Enzyme | Serum  (White Cap) | 4.9ml | 8 - 65 U/L | 168 hours |  | ACE | Chemical  Pathology |
| Anti- Aquaporin 4  (NMO) Antibodies | Serum | 4.9ml |  |  | Referral Test | AQUA4 | Immunology |

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| Anti-Adrenal  Antibodies | Serum | 4.9ml | Negative | 4 weeks |  | ADR | Immunology |
| Anti-Acetyl  Choline Receptor Antibodies | Serum | 4.9ml |  |  | Referral Test | ACHR AB | Immunology |
| Anti- Beta2Glycoprotein  1 Antibodies | Serum | 4.9ml | <7 U/ml | 8 days |  | CARD ABS | Immunology |
| Anti-C1Q  Antibodies | Serum | 4.9ml |  |  | Referral Test | ANTIC1Q | Immunology |
| Anti-Cardiac  Muscle Antibodies | Serum | 4.9ml |  |  | Referral Test | CARD.MU  S | Immunology |
| Anti-Cardiolipin Antibodies (IgG  and IgM) | Serum | 4.9ml | IgG: 0-10 GPLU/mL  IgM: 0-10 MPLU/mL | 8 days |  | CARD ABS | Immunology |
| Anti-CCP | Serum | 4.9ml | < 3 U/ml | 8 days |  | CCP | Immunology |
| Anti-Diphtheria  Antibodies | Serum | 4.9ml |  |  | Referral Test | DIPH | Immunology |
| Anti-Double- Stranded-DNA  Antibodies | Serum | 4.9ml | EliA:<10 IU/mL IIF: Negative | EliA:<3-5 days IIF: 8 days |  | DNA | Immunology |
| Anti-ENA (Extractable Nuclear Antigen) Antibodies – includes anti-Ro, La, RNP, Sm, Jo-1  & Scl-70) | Serum | 4.9ml | Negative for all 6 components | 2-3 weeks |  | ENA | Immunology |
| Anti-Endomysial  (IgA) Antibodies | Serum | 4.9ml | Negative | 8 days |  | EMA | Immunology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Anti-Endomysial  (IgG) Antibodies | Serum | 4.9ml | Negative | 8 days | Only performed  when IgA deficiency | EMAG | Immunology |
| Antifungal drug  assays |  |  |  | 2/3 days |  |  | Microbiology |
| Anti-Gangleoside  Antibodies | Serum | 4.9ml |  |  | Referral Test | GAD AB | Immunology |
| Anti Glutamic Acid Decarboxylase  Antibodies (GAD) | Serum | 4.9ml |  |  | Referral Test | GANG AB | Immunology |
| Anti-Gastric- Parietal Cell antibodies (Anti-  GPC) | Serum | 4.9ml | Negative | 3-5 days |  | GPC | Immunology |
| Anti-Glomerular Basement Membrane  Antibodies (Anti- GBM) | Serum | 4.9ml | Negative: <7U/ml Equivocal: 7- 10U/ml  Positive: >10 Uml | 1-3 days |  | GBM | Immunology |
| Anti- Glycine  receptor Antibodies | CSF |  |  |  | Referral Test | GLYRCSF | Immunology |
| Anti- Glycine  receptor Antibodies | Serum | 4.9ml |  |  | Referral Test | GLYR | Immunology |
| Anti-HIB  Antibodies | Serum | 4.9ml |  |  | Referral Test | HIB | Immunology |
| Anti-Histone  Antibodies | Serum | 4.9ml | Negative | 4-6 weeks |  | HIST | Immunology |
| Anti-HMGCoAR  Antibodies | Serum | 4.9ml |  |  | Referral Test | HMGCOA  R | Immunology |
| Anti-IgA  Antibodies | Serum | 4.9ml |  |  | Referral Test | AIGA | Immunology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Anti-Insulin  Antibodies | Serum | 4.9ml |  |  | Referral Test | INSAB | Immunology |
| Anti-Intrinsic Factor Antibodies | Serum | 4.9ml | Negative: <7 Elia U/ml  Equivocal: 7-10 Elia U/mL Positive: >/= 10 Elia U/ml | 8 days |  | IF | Immunology |
| Anti-Islet Antigen  Type 2 Antibodies | Serum | 4.9ml |  |  | Referral Test | IA2AB | Immunology |
| Anti-Islet  Antibodies | Serum | 4.9ml |  |  | Referral Test | ISLT | Immunology |
| Anti-Liver-Kidney Microsomal (LKM)  Antibodies | Serum | 4.9ml | Negative | 3-5 days |  | LKM | Immunology |
| Anti-Myelin Associated  Antibody (MAG) | Serum | 4.9ml |  |  | Referral Test | MAG AB | Immunology |
| Anti-Mitochondrial Antibody (including  M2 subtyping) | Serum | 4.9ml | Negative  M2 ELISA <10 IU/ml | 3-5 days (1 month if IIF positive) |  | MITO | Immunology |
| Anti-MUSK  Antibodies | Serum | 4.9ml |  |  | Referral Test | MUSK  ABS | Immunology |
| Anti- Myelin Oligodendrocyte  Antibodies (MOG) | Serum | 4.9ml |  |  | Referral Test | ANTI MOG | Immunology |
| Anti- Myeloperoxidase  antibodies (Anti- MPO) | Serum | 4.9ml | <3.5IU/mL | 2-4 days, or as required | Follow-up of patients with know MPO-ANCA  positive disease | MPO | Immunology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Anti-Neuronal Antibodies – | Serum | 4.9ml | Negative | 15 days | Paired Serum/CSF samples will be accepted. Results of both must be  interpreted in the clinical context. | HUYO | Immunology |
| Anti-Neuronal Antibodies (CSF) | CSF |  | Negative | 15 days (urgent available on request) | Paired Serum/CSF samples will be accepted. Results of both must be  interpreted in the clinical context. | HUYOCSF | Immunology |
| Anti-Neutrophil Cytoplasm Antibodies (ANCA)  (IIF) | Serum | 4.9ml | Negative | 3-5 days |  | ANCA | Immunology |
| Anti-NMDA Antibodies | Serum | 4.9ml | Negative | 8 days (urgent available on request) | Paired Serum/CSF samples will be accepted. Results of both must be interpreted in the  clinical context. | NMDA | Immunology |
| Anti-NMDA Antibodies | CSF |  | Negative | 8 days (urgent available on request) | Paired Serum/CSF samples will be accepted. Results of both must be  interpreted in the clinical context. | NMDACSF | Immunology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Anti-NMDA Antibody Screen | Serum & CSF |  |  | 8 days (urgent available on request) | Paired Serum/CSF samples will be accepted. Results of both must be  interpreted in the clinical context. | NMDASCR N | Immunology |
| Anti-Nuclear Antibodies (Factor) | Serum | 4.9ml | Negative.  Weak positive (1:80) are commonly seen particularly in healthy older women. | 3-5 days |  | HEP2ANF | Immunology |
| Anti-Nucleosome Antibodies | Serum | 4.9ml | Negative | 4-6 weeks | Strong clinical suspicion of lupus with negative routine serology. Must discuss with Consultant  Immunologist. | NUCSOME | Immunology |
| Anti-Ovarian  Antibodies | Serum | 4.9ml |  |  | Referral Test | OVA | Immunology |
| Anti-Parathyroid  Antibody | Serum | 4.9ml |  |  | Referral Test | PARA AB | Immunology |
| Anti-PLA2R  Antibodies | Serum | 4.9ml | Negative <14 RU/ml | 3 weeks |  | PLA2R | Immunology |
| Anti-Platelet  Antibody | Serum | 4.9ml |  |  | Referral Test | PLATEAb | Immunology |
| Anti-Pneumococcal Antibodies | Serum | 4.9ml | Normal response to vaccination is a  fourfold increase in the level of titres. Units mg/L. | 4-8 weeks | Should only be used  to assess vaccine responses. | PNEU | Immunology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Anti-Proteinase 3 Antibodies (Anti- PR3) | Serum | 4.9ml | <2IU/mL | 2-4 days, or as required | Follow-up of patients with known  PR3-ANCA positive disease. | PR3 | Immunology |
| Anti-Ribosomal-P- Protein Antibodies | Serum | 4.9ml | Negative | 4-6 weeks | Strong clinical suspicion of lupus with negative routine serology. Must discuss with Consultant  Immunologist. | RIBOP | Immunology |
| Anti-Salivary Gland  Antibodies | Serum | 4.9ml |  |  | Referral Test | SALVGLA  B | Immunology |
| Anti- SARS-CoV-2  Antibodies | Serum | 4.9mls | Nucleocapsid: Not Detected  Anti-Spike: <0.8 U/ml Not Detected | 4-6 weeks | Nucleocapsid and  Spike Antibody | ANTICV19 | Immunology |
| Anti-Skin  Antibodies | Serum | 4.9ml | Negative | 8 days |  | SKIN | Immunology |
| Anti-Smooth  Muscle Antibodies | Serum | 4.9ml | Negative | 3-5 days |  | SMA | Immunology |
| Anti-Streptolysin-O  Titre (ASOT) | Serum | 4.9ml | <200IU/ml | 3-5 days |  | ASOT | Immunology |
| Anti-Striated  Muscle Antibodies | Serum | 4.9ml |  |  | Referral Test | STRT.MUS | Immunology |
| Anti-Tetanus  Antibodies | Serum | 4.9ml |  |  | Referral Test | TET | Immunology |
| Antithrombin | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line | 0.82-1.18 IU/mL | 4 weeks. | Batch tested | AT | Coagulation |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Anti-Thyroid Peroxidase  Antibodies (Anti- TPO) | Serum | 4.9ml | Negative: < 34 IU/ml Positive: > 34 IU/ml | 8 days |  | TPO | Immunology |
| Anti-Tissue Transglutaminase Antibodies (anti-  tTG) | Serum | 4.9ml | Negative: < 4 U/ml Equivocal: 4-10 U/ml  Positive: 10 U/ml | 8 days |  | tTG | Immunology |
| Anti-TRAB  Antibodies | Serum | 4.9ml |  |  | Referral Test | TRAB | Immunology |
| Anti-Voltage Gated  Calcium Channel Antibodies | Serum | 4.9ml |  |  | Referral Test | VGCC | Immunology |
| Anti-Voltage Gated Potassium Channel  Antibodies | Serum | 4.9ml |  |  | Referral Test | VGKC | Immunology |
| Anti-Voltage Gated  Potassium Channel Antibodies - CSF | CSF |  |  |  | Referral Test | VGKCCSF | Immunology |
| Anti-Zinc  Transporter Antibodies | Serum | 4.9ml |  |  | Referral Test | ZNT8 | Immunology |

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| Anti Xa  (UFH & LMWH) | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line | Units IU/mL Routine Monitoring is not recommended as there is no ‘therapeutic range’. | 1 week | Timing, clinical indication and clinical interpretation must be discussed with the Haematology team. Must be < 2  hours old at time of testing. | ANTIXA | Coagulation |
| Arterial Blood Gas LABORATORY, | Arterial Syringe | 1mL | pH: 7.35-7.45 pH scale pCO2: 4.67-6.40 kPa m,  4.27-6.00 kPpa f.  pO2: 11.11.0-14.4 kPa  sO2: 9495.0 – 99.0%  HCO3-(P,)c: 21.0-28.0 mmol/L HCO3-(P,st)c: 22.5-26.9 mmol/L m, 21.8-26.2 mmol/L f.  SBEc: -1.5 to 3.0 mmol/L m,  -3.0 to 2.0 mmol/L f.  sO2: 95.0-99.0% | 0.5 hours |  | ABG | Chemical Pathology |
| Arterial Blood Gas, POCT, Not  Laboratory | Arterial Syringe |  |  | 0.5 hours |  | ABGPOCT | Chemical Pathology |
| Aspartate  Transaminase | Lithium  Heparin | 4.9ml | Female: < 32 I.U/L  Male: < 40 I.U/L | Routine: 2.5hrs  STAT: 2hrs |  | AST | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Autoimmune Encephalitis Screen | Serum & CSF | 4.9ml | Negative | 8 days (urgent available on request) | Paired Serum/CSF samples will be accepted. Results of both must be  interpreted in the clinical context. | AIEPANEL | Immunology |
| Autoimmune Encephalitis Screen (CSF) | CSF |  | Negative | 8 days (urgent available on request) | Paired Serum/CSF samples will be accepted. Results of both must be  interpreted in the clinical context. | AIE CSF | Immunology |
| Autoimmune Encephalitis Screen (Serum) | Serum | 4.9ml | Negative | 8 days (urgent available on request) | Paired Serum/CSF samples will be accepted. Results of both must be interpreted in the  clinical context. | AIESERU M | Immunology |
| Aspergillus Titres |  |  |  | 1 week |  |  | Microbiology |
| B2 Microglobulin  Serum | Lithium  Heparin | 4.9ml | 0.8-2.2 mg/L | 72 hours |  | B2M | Chemical  Pathology |
| Barbiturates | Serum (White Cap) | 4.9 mL | N/A | Routine: 2.5hrs STAT: 2hrs | Qualitative test only: positive / not detected | BDS | Chemical Pathology |
| Barbiturates | Spot urine | N/A | N/A | Temporarily outsourced. 5 days | Qualitative test only:  positive / not detected | UDOA | Chemical Pathology |
| Bartonella serology | Serum | 4.9ml | N/A | 2/3 weeks |  |  | Microbiology |

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| Basophil Degranulation Test | 7mls SERUM, and 7mls Li-  HEP for every 2 drugs tested |  |  |  | Referral Test | BDT | Immunology |
| Benzodiazepines | Serum (White Cap) | 4.9mL | N/A | Routine: 2.5hrs STAT: 2hrs | Qualitative test only: positive / not  detected | BDS | Chemical Pathology |
| Benzodiazepines | Spot urine | N/A | N/A | Temporarily outsourced. 5 days | Qualitative test only:  positive / not detected | UDOA | Chemical Pathology |
| Beta Human Chorionic Gonadotrophin | Serum | 4.9ml | Non-pregnant,pre-menopausal women: <1 I.U/L  Postmenopausal women: <7 I.U/L Men: <2 I.U/L | 3 days |  | BHCG | Chemical Pathology |
| Beta Natriuretic Peptide (NT proBNP II) | Serum/Plasma | 4.9ml | 18-44: 97 pg/ml  45-54: 121 pg/ml  55-64: 198 pg/ml  65-74: 285 pg/ml  >/= 75: 526 pg/ml | 24 hours |  | BNP | Chemical Pathology |
| Bilirubin | Lithium  Heparin | 4.9ml | < 21 μmol/L | Routine: 2.5hrs  STAT: 2hrs |  | BILI | Chemical  Pathology |
| Bilirubin (Fluid) | Plain | 5ml | N/A | Routine: 2.5hrs  STAT: 2hrs |  | FLBILI | Chemical  Pathology |
| Bilirubin Direct | Lithium  Heparin | 4.9ml | < 5.0 μmol/L | 72 hours |  | DBILI | Chemical  Pathology |

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| Biologics Monoclonal Therapeuticals (except Infliximab & Adalimumab) | Serum | 4.9ml |  |  | Referral Test Requesting Clinician to complete Biologics Request Form (LF-IMM-  GEN0055) Please contact lab for details. | BIOLOGIC | Immunology |
| **BLOOD CULTURES**  Routine Blood Cultures  Mycobacterium Blood Cultures | Blood Culture Bottles  TB Blood Culture Bottle | See IPCT  “Taking a blood culture” guidelines |  | 6 days for routine negative result  56 days | All blood cultures must be transported to the laboratory as soon as possible after taking.  Myobacterium blood culture bottles can NOT be sent in the chute system, must be hand-delivered to laboratory. | BLDCULT  BLDTBC | Microbiology |
| Blood Drug Screen (Benzodiazepines, Barbiturates, Tricyclic Antidepressants,  Salicylate, Paracetamol) | Serum (White Cap) | 4.9ml |  | Routine: 2.5hrs STAT: 2hrs |  | BDS | Chemical Pathology |

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| Blood film examination | EDTA(pink capped) | 2.6ml standard  1.8 ml paediatric | N/A | Routine: 5 days  Urgent: 24 hours | Sample must be <8 hrs old | In-house users must request this by phoning the Laboratory directly and completing an Additional test Confirmatio n form  HAEMG- LF-083 | Haematology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Bone  marrow aspirate | Bone marrow aspirate on glass slides. Needles and slides available in CKB (2150) | A minimum of 5 slides. | N/A | Processed during Routine working hours  Stained for next Working Day. Await Consultant reporting: Reporting TAT: Written report is available in the Haematology Department if required and that the final report will be available  on PIPE within 2 to 3 weeks | Slides must be labelled in pencil with the patients’ Surname and second unique identifier either D.O.B or unique hospital number.  A completed Bone Marrow Request form must accompany the slides, HAEMG-LF- 075. | BMA | Haematology |
| Bronchiectasis  Profile | Serum | 4.9ml |  |  |  | BRONCH | Immunology |
| C-Peptide | Serum  (White Cap) | 4.9ml | 1.1 – 4.4µmol/L | 10 days |  | CPEPTIDE | Chemical  Pathology |
| C Reactive Protein | Lithium  Heparin | 4.9ml | 0 – 5 mg/L | Routine: 2.5hrs  STAT: 2hrs |  | CRP | Chemical  Pathology |
| C1 Esterase  Inhibitor (C1INH) | Serum | 4.9ml | 0.21-0.38 g/L | 4-6 weeks |  | C1IN | Immunology |
| C1inhibitor Function | Serum | 4.9ml |  |  | Referral Test | FNHAE2 | Immunology |
| C1q Complement level | Serum | 4.9ml |  |  | Referral Test | C1Q.LVL | Immunology |
| C2 Complement | Serum | 4.9ml |  |  | Referral Test | C2 | Immunology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| C3 | Serum | 4.9ml | 0.9-1.8 g/L | 1-5 days |  | C3 | Immunology |
| C3 Nephritic Factor | Serum | 4.9ml |  |  | Referral Test | C3NEPH | Immunology |
| C4 | Serum | 4.9ml | 0.1-0.4 g/L | 1-5 days |  | C4 | Immunology |
| CA 12-5 | Serum | 4.9ml | << 35 kU/L | 3 days |  | CA125 | Chemical  Pathology |
| CA 15-3 | Serum | 4.9ml | < 25 kU/L | 3 days |  | CA153 | Chemical  Pathology |
| Ca 19.9 | Serum | 4.9ml | < 27 kU/L | 3 days |  | CA199 |  |
| Caeruloplasmin | Lithium Heparin | 4.9ml | Female: 0.16 – 0.45g/L Male: 0.15 – 0.30g/L | 72 hours |  | CAER | Chemical Pathology |
| Calcium | Lithium  Heparin | 4.9ml | 2.15 - 2.50 mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | CA | Chemical  Pathology |
| Calcium Adjusted | Lithium  Heparin | 4.9ml | 2.21 – 2.52 mmol/L | Routine: 2.5hrs  STAT: 2hrs | Calculation derived  in house | CORRCA | Chemical  Pathology |
| Calcium - 24 Hour  Urine | 24 Hour Urine | N/A | 2.5 - 7.5 mmol/24Hr | Routine: 48hrs  STAT: 2.5hrs |  | URCA | Chemical  Pathology |
| Cannabis | Spot urine | N/A | N/A | Temporarily outsourced. 5 days | Qualitative test only: positive / not  detected | UDOA | Chemical Pathology |
| Carbamazepine | Serum | 4.9ml | 4.0 - 12.0 mg/L | Routine: 2.5hrs  STAT: 2hrs |  | CARB | Chemical  Pathology |
| Carboxyhaemoglobi  n | Arterial  Syringe | 1 mL | 0.5 – 3.0% | 0.5 hours |  | COHB | Chemical  Pathology |
| Carcinoembryonic  Antigen | Serum | 4.9ml | < 5.2ng/ml  . | 3 days |  | CEA | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| CD4 | EDTA (pink capped) | 2ml | 502-1749Cells/ul | 2 Working days | Samples must be  <24 hours old. Only processed Monday to Friday.  Must be Received in Lab before 3pm on a Friday | CD4 | Haematology |
| CF-ABPA Panel | Serum | 4.9ml |  |  |  | CF-ABPA | Immunology |
| CH100 & AP100 | Serum | 4.9ml | Normal | 2-3 months | It is essential that serum is separated and frozen within 3 hours maximum  after venepuncture | COMPFUN C | Immunology |
| Childrens Neuroblastoma Screen | Freshly voided random urine | 5 mL | Creatinine, HMMA, HVA, Dopamine, Adrenaline & Noradrenaline.  Free Metanephrine & Free Normetanephrine are included for Teenager screens (>14 years)  Childrens age specific ranges are quoted on all reports | 288hours  Urgent samples prior arrangement by phone to 01- 8092351. | Brought to the laboratory IMMEDIATELY  for acidification | CNBS  CMETS | Chemical Pathology |
| Chloride - Spot  Urine Sample | MSU | 25ml | Units: mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | USCL | Chemical  Pathology |
| Chloride Plasma | Lithium  Heparin | 4.9ml | 95 - 108 mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | CL | Chemical  Pathology |
| Cholesterol | Lithium  Heparin | 4.9ml | < 5.0mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | CHO | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Cholesterol (Fluid) | Plain | 5ml |  | Routine: 2.5hrs  STAT: 2hrs |  | FLCHOL | Chemical  Pathology |
| Cholesterol &  Triglyceride | Lithium  Heparin | 4.9ml | See individual tests | Routine: 2.5hrs  STAT: 2hrs |  | CHO/TG | Chemical  Pathology |
| -Coag Screen Hep includes PT, INR, APTT and APTT  Ratio (APTT-R) | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line | PT: 10-13.2 seconds  APTT: 24-36 seconds  APTTR 1.5-2.5 ratio | In-house: 4 Hours  Urgent: 1.5 hour |  | COAGSC  PT APTT | Coagulation |
| Paediatric pre-op Coag Screen | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line | 0-6 mths no range , other ranges build according to Crumlin ACL Top ranges. | In-house: 4 Hours  Urgent: 1.5 hour | Sample must be <4 hours old Profile consists of COAGHEP, FIBN  and MS. | RAPHCOA G | Coagulation |
| Cocaine | Spot urine | N/A | N/A | Temporarily outsourced. 5 days | Qualitative test only: positive / not  detected | UDOA | Chemical Pathology |
| Cold Reactive Antibodies | 7.5ml EDTA  specimen bottle. | Minimum volume of 2.5ml. | Referred to the IBTS, Monday to Friday 08.00hrs to 17.00 hrs | 2-5 days as per Primary Specimen User Manual IBTS 2009 | Specimen can be taken using BloodTrack PDA as per T/S procedure. Alternatively Patient details must be handwritten on the  specimen bottle. | CRA | Blood Transfusion |
| Cortisol A.M. | Serum | 4.9ml | 166 – 507nmol/L | 24 hours |  | CRTAM | Chemical  Pathology |
| Cortisol Day Curve | See Labels | 7.5ml |  | 24 hours |  | CRTDC | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Cortisol Random | Serum | 4.9ml |  | Routine: 24hrs STAT: 2hrs |  | CRTR | Chemical Pathology |
| COVID-19 SARS-  CoV-2 | UTM/VTM  swab | 3mls | N/A | 48 hours |  | CV19 | Microbiology |
| Creatine Kinase  Total | Lithium  Heparin | 4.9ml | Female: 26 – 192 I.U/L  Male: 39 – 308 I.U/L | Routine: 2.5hrs  STAT: 2hrs |  | CK | Chemical  Pathology |
| Creatinine - Spot  Urine Sample | MSU | 25ml |  | Routine: 2.5hrs  STAT: 2hrs |  | USCREAT | Chemical  Pathology |
| Creatinine – 24  Hour Urine | 24 Hour Urine | 5ml | M 9000 – 19000 µmol/24Hrs  F 6000 - 13000 µmol/24Hrs | Routine: 2.5hrs  STAT: 2hrs |  | URCREAT | Chemical  Pathology |
| Creatinine (fluid) | Plain | 5ml |  | Routine: 2.5hrs  STAT: 2hrs |  | FLCREAT | Chemical  Pathology |
| Creatinine (plasma) | Lithium Heparin | 4.9ml | Female: 45 – 8 4µmol/L  Male: 59 – 104 µmol/L | Routine: 2.5hrs STAT: 2hrs |  | CREAT | Chemical Pathology |
| Creatinine  Clearance | Lithium  Heparin/24HU | 4.9ml | 80 - 125 ml/min | Routine: 48hrs  STAT: 2.5hrs |  | GFR | Chemical  Pathology |
| CRF | See Labels | 4.9ml | See individual tests | See individual  tests |  | CRF | Chemical  Pathology |
| Cryoglobulins (CRYOS, SPE, IGG  ) | Serum  8 hour Fasting Samples Required | See Labels | Qualitative  See individual tests Monday to Friday only.  Sample must be clotted at 37ºC | 840 hours |  | CRYOS | Chemical Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| **CSF-**  Microscopy  Routine Culture  TB Culture | Clear sterile universal containers | As much as possible |  | Same day 4 days  65 days | Do not send CSF samples in chute system – must be hand delivered to laboratory as soon as possible after taking. Contact bleep 158 if  sending between 5pm and 8am. |  | Microbiology |
| CSF Protein /  Glucose | CSF | 300 µL | See individual tests.  Order only placed by laboratory | Routine: 2.5hrs  STAT: 2hrs |  | CSFBIO | Chemical  Pathology |
| CSF  Xanthochromia | CSF Brown | 1ml |  | 24hours |  | CSFXANT | Chemical  Pathology |
| CTD Screen | Serum | 4.9ml | Negative | 2-5 days |  | CTDSCRN | Immunology |
| Cyanide | EDTA Whole  Blood | 2.6ml | Qualitative | Routine: 48hrs  STAT: 24hrs |  | CYANIDE | Chemical  Pathology |
| Cyclosporin A | EDTA Whole  Blood | 2.6ml |  | 10 days |  | CYA | Chemical  Pathology |
| D-Dimer | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line | <0.5 g/ml | In-house: 4 Hours  Urgent: 1.5 hour | Sample must be <8 hours old | D-DIMER | Coagulation |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | | | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Dehydro Epi Androstene Sulphate | Serum | 4.9ml | µmol/L) | | | 3 days |  | DHEAS | Chemical Pathology |
| **Years** | **Females** | **Males** |
| 15-20y | 1.8-10.0 | 1.9-13.4 |
| 20-25y | 4.0-11.0 | 5.7-13.4 |
| 25-35y | 2.7-9.2 | 4.3-12.2 |
| 35-45y | 1.7-9.2 | 2.4-11.6 |
| 45-55y | 1.0-7.0 | 1.2-9.0 |
| 55-65y | 0.5-5.6 | 1.4-8.0 |
| 65-75y | 0.3-6.7 | 0.9-6.8 |
| ≥ 75y | 0.3-4.2 | 0.4-3.3 |
| DEX. SUPP. High  Dose Long | Serum | 4.9ml |  | | | 24hrs |  | DEXHDL | Chemical  Pathology |
| DEX. SUPP. Low  Dose Long | Serum | 4.9ml |  | | | 24hrs |  | DEXLDL | Chemical  Pathology |
| Dexamethazone  Over Night | Serum | 4.9ml |  | | | Routine: 24hrs  STAT: 2 hrs |  | DEXON | Chemical  Pathology |
| Digoxin | Serum  (White Cap) | 4.9ml | 0.6 – 1.2 μg/L | | | Routine: 2.5hrs  STAT: 2hrs |  | DIG | Chemical  Pathology |
| Direct Antiglobulin Test | EDTA  Specimen. | Minimum volume of  2.5ml (Use FBC bottle). | Mon-Fri 0800hrs-1700hrs Sat 0900hrs-1300hrs | | | Routine specimens 30 minutes | An Addressograph label must only be placed over the manufacturer’s label on the specimen bottle.  Should be sent to the hospital Blood Bank as soon as possible after taking the  specimen. | DAT | Blood Transfusion |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | | | | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Direct Immunofluorescenc e (DIF) on Skin Biopsies | Fresh skin biopsy, transported on damp gauze to the laboratory |  |  | | | | 1-2 weeks (urgent services available) | Unless special arrangements have been agreed specimen MUST reach the Immunology  laboratory by 4pm |  | Immunology |
| ESR | Trisodium  citrate 4NC /3.5  (purple) | 3.5 ml **must** be  filled to the line |  | *Male* | *Female* |  | 1 Working Day  Urgent for Temporal Arthritis: 90 minutes | Addressograph label  must be placed over the label on the bottle. Contact Haematology to  prioritise sample | ESR | Haematology |
| 1- 12 mm/hr | 1-20 mm/hr |
|  | | | |
| Ethanol | Plasma  Fluoride Oxalate | 2.7 mL | Unit: mg % | | | | 2.5 hours (routine)  2 hours (STAT) |  | ETOH | Chemical Pathology |
| Ethanol | Spot urine | N/A | Units: mg% | | | | 3 days |  | URETOH | Chemical  Pathology |
| Ethylene Glycol | Serum  (White Cap) | 7.5ml | Units: mg% | | | | 24 hours |  | EG | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | | | | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| External Thrombophilia screen | Trisodium citrate 9 NC/2.9 mL  (green capped)  **4 samples required** | **Must** be filled to the line | See individual requests APCR, PC, FPS, AT3 and LA. | | | | 4 weeks. | Batch tested.  The Thrombophilia screen (TPSC) includes  the following tests: PT,  APTT, FIBN, D- DIMER,  LA, AT3,PC, FPS, APCR  5LEIDEN\*and Hence, these  Tests do **not** need to be ordered on an individual basis.  See below for TAT for 5Leiden and | TPSC  A TPSC  request form must be completed with the name of the sanctioning Haematolog y team Doctor. | Coagulation |
| Extrinsic Factor assay Screen | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line | See individual Factor assays below | | | | Case dependant Max 14 days | Tests done in batches. For urgent requests | **EFS** | Coagulation |
| Factor Assays | Trisodium  citrate 9 NC/2.9 mL  (green capped)  **2 samples required** | **Must** be filled  to the line |  | FII | 0.72-0,72-1.311.31IU/mL |  | Case dependent,  maximum 14 days | Tests done in  batches. For urgent requests, contact the laboratory in the morning, may be able to facilitate testing that day. | FII, FV,  FVII, FVIII, FIX, FX, FXI, FXII | Coagulation |
| FV | 0.63-1.33IU/mLIU/mL |
| FVII | 0.51-1.54IU/mL |
| FVIII | 0.6-1.36IU/mL |
| FIX | 0.8-1.47IU/mL |
| FX | 0.64-1.5IU/mL |
| FXI | 0.72-1.52IU/mL |
| FXII | 0.52-1.64IU/mL |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Factor V Leiden mutation | EDTA sample (pink) | 2-3ml | Negative | 5 weeks | Only tested if APCR(Activated Protein C) is positive or family history is indicated on the request form. See previous page for APCR requirements) The **TPSC** Request Form HAEMC-LF-023  **MUST** be completed including patient consent (section E&F), This form can be obtained from the intranet. If genetic consent is not  obtained the molecular test will be rejected. | 5LEIDEN | Coagulation |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| **FAECES**  Routine culture  *C difficile* toxin  Rota/adeno virus Ova/parasites  Helicobacter pylori antigen  Cryptosporidium | Sterile 60ml container\*  As above  As above As above As above  As above | 15 mls  10-15mls  15 mls  15 mls  15 mls  15 mls | In house PCR test for Enteric pathogens  In house PCR test | 72-96  hours(includes weekend)  Within 24 hours of receipt  Within 24 hours of receipt  4 days  4 days  4 Days | Clinical/travel details essential  Performed on semi- formed and liquid samples only  Performed on infants <2 years old  Travel details essential | FAECULT  CDTOX  ROTA  Ova/Para | Microbiology |
| FE & Transferrin Saturation | Lithium Heparin | 4.9ml | 5.8 – 34.5µmol/L  A fasting Transferrin Saturation > 55% in males or > 50% in females indicates Iron accumulation. | Routine: 2.5hrs STAT: 2hrs |  | FETIBC | Chemical Pathology |
| Ferritin | Lithium Heparin | 4.9ml | Female 17-60yr : 13 – 150 ng/mL Male 20-60yr : 30 – 400 ng/mL  No reference range for >60yr old. | 3 days |  | FERR | Chemical Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Fibrinogen | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line | 1.9 – 3.5 g/L | In-house: 4Hours Urgent: 1.5 hour | Sample must be <4 hours old  For patients on Argatroban a Clauss Fibrinogen test is not appropriate & will be reported as follows: "Fibrinogen result is unavailable as the patient is on Argatroban which may cause a false  low fibrinogen result in the Clauss fibrinogen assay.  Please discuss with the Haematology team". | FIBN | Coagulation |
| FluA/B | UTM/VTM  viral swab | **N/A** | N/A | 48 hours | Only available during FLU PCR Influenza season as decided by the outbreak influenza  committee | FLU PCR | Microbiology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| **FLUIDS- ASCITES/CAPD/**  **PLEURAL/ SYNOVIAL/PERI** | Sterile/ Universal Container for culture |  |  | 4-6 hours  4-5 days  56 days | NOTE: EDTA tube needed required for cell count |  | Microbiology |
| **TONEAL/PERIC**  **ARDIAL**  Microscopy  Routine Culture  TB Culture PERFUSION |
| Folic Acid | Lithium Heparin | 4.9ml | 3.9 – 26.8µg/L | 3 days |  | FOL | Chemical Pathology |
| Follicle Stimulating Hormone | Serum | 4.9ml | Male : 1.5 – 12.4 U/L  Female:  Follicular : 3.5-12.5 U/L Mid Cycle : 4.7 – 21.5 U/L Luteal : 1.7-7.7 U/L  Post Menopausal : 25.8-134.8 U/L | 3 days |  | FSH | Chemical Pathology |
| Free Protein S | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line | Males:0.76-1.46 IU/mL Females: 0.65-1.33IU/mL | 4 weeks. | Batch tested. Patient must be off warfarin for a  minimum of 2wks to perform this assay | FPS | Coagulation |
| Free T3 | Lithium  Heparin | 4.9ml | 3.1 – 6.8 pmol/L | 3days |  | FT3 | Chemical  Pathology |
| Free Thyroxine | Lithium  Heparin | 4.9ml | 12.0 – 22.0 pmol/L | 3 days |  | FT4 | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | | | | | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Full | EDTA (pink | 2.6ml standard |  | *Parameter* | *Male* | *Female* |  | In-house: 4 Hours | 7.5ml and 10ml | FBC | Haematology |
| Blood count | capped) | 1.8 ml | *Tested* |  |  | Urgent: 1 hour | EDTA samples are |  |  |
|  |  | paediatric | Hb | 13-17.5 | 11.5-16.5 |  | not acceptable |  |  |
|  |  |  |  | g/dL | g/dL |  |  |  |  |
|  |  |  |  |  | 11.7-16.0 \* |  | See Age specific |  |  |
|  |  |  | PCV | 0.37-  0.54 L/L | 0.335-0.54  L/L  0.37-0.54\* |  | ranges attached to  all reports.\*Women  >50 years |  |  |
|  |  |  | RCC | 4-6.5 | 3.8-5.8 |  |  |  |  |
|  |  |  |  | x1012/L | x1012/L |  |  |  |  |
|  |  |  |  |  | 4.0-6..5\* |  |  |  |  |
|  |  |  | RDW | 12.0- | 12.1-14.3% |  |  |  |  |
|  |  |  |  | 13.6% |  |  |  |  |  |
|  |  |  | MCV | 79 -96 fL | |  |  |  |  |
|  |  |  | MCH | 27 -32 pg | |  |  |  |  |
|  |  |  | RDW | 11-15% | |  |  |  |  |
|  |  |  | PLTS | 140 -400 x109/L | |  |  |  |  |
|  |  |  | WBC | 4.0 -11 x109/L | |  |  |  |  |
|  |  |  | Neut | 2.0 -7.5 x109/L | |  |  |  |  |
|  |  |  | Lymph | 1.0 -4.0 x109/L | |  |  |  |  |
|  |  |  | Mono | 0.2- 1.0 x109/L | |  |  |  |  |
|  |  |  | Eosin | 0.04- 0.4 x109/L | |  |  |  |  |
|  |  |  | Baso | 0.01- 0.1 x109/L | |  |  |  |  |
| Galactomannan | Sterile  container | 1 ml | >1.0 (BAL) | | | | | 7 days | Can also be  performed on serum | Galacto | Microbiology |
| G-Glutamyl  Transferase | Lithium  Heparin | 4.9ml | Female: < 39 I.U/L  Male: < 59 I.U/L | | | | | Routine: 2.5hrs  STAT: 2hrs |  | GGT | Chemical  Pathology |
| Globulin (includes  PROT & Albumin) | Lithium  Heparin | 4.9ml | See individual tests | | | | | Routine: 2.5hrs  STAT: 2hrs |  | GLOB | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Glucagon Test | See Labels | 4.9ml | See individual tests | See individual  tests |  | GLUCGON  T | Chemical  Pathology |
| Glucose (fluid) | Plasma  (Yellow Cap) | 2.7mL |  | Routine: 2.5hrs  STAT: 2hrs |  | FLGLUC | Chemical  Pathology |
| Glucose 120  minutes (2 HR PP) | Plasma  (Yellow Cap) | 2.7mL |  | Routine: 2.5hrs  STAT: 2hrs |  | GLUC120 | Chemical  Pathology |
| Glucose Random  Sample | Plasma  (Yellow Cap) | 2.7mL |  | Routine: 2.5hrs  STAT: 2hrs |  | GLUC | Chemical  Pathology |
| Glucose Tolerance  Test | See Labels | 2.7mL |  | Routine: 2.5hrs  STAT: 2hrs |  | GTT | Chemical  Pathology |
| Glucose Tolerance  Test (short) | See Labels | See Labels | See individual tests | See individual  tests |  | GTTSHOR  T | Chemical  Pathology |
| Glucose Tolerance  Test for HGH | See Labels | See Labels | See individual tests | See individual  tests |  | GTTGH | Chemical  Pathology |
| Glucose Tolerance  with Rels. Factors | See Labels | See Labels | See individual tests | See individual  tests |  | GTTRF | Chemical  Pathology |
| Glucose Zero Time  (fasting) | Plasma  (Yellow Cap) | 2,7mL | 3.6 – 6.0mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | GLUC00 | Chemical  Pathology |
| Gonadotrophins  (FSH & LH) | Serum | See Labels | See individual tests | 3 days |  | GNS | Chemical  Pathology |
| GTT Prolonged | See Labels | See Labels | See individual tests | See individual  tests |  | GTTLNG | Chemical  Pathology |
| GTT with Insulin | See Labels | 4.9mL |  | See individual  tests |  | GTTINS | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| HFE  Haemochromatosis | Whole Blood EDTA | 2.6ml |  | Up to 4 weeks | Must be accompanied by completed consent form (HAEMC-LF-  077) This form can be obtained from the intranet. If genetic consent is not  obtained the molecular test will be rejected. | HFE | Haematology |
| Haemoglobin A1C | Whole Blood  EDTA | 2.6ml | 20 – 42 mmol/mol  In normal subjects | 48hrs |  | HBA1C | Chemical  Pathology |
| Haptoglobins | Clotted  sample (white) | 7.5ml standard  2.6 ml paediatric | 0.3-2.0 g/L | 8 working days |  | HP | Haematology |
| HPV serology | Serum | 4.9mL |  | 2/3 weeks |  |  | Microbiology |
| Human Growth  Hormone | Serum | 4.9mL | Units: ng/ml | 20 days |  | HGH | Chemical  Pathology |
| Human Growth Hormone Day  Curve | See Labels | 4.9ml | See individual tests | 20 days |  | HGHDC | Chemical Pathology |
| Hypoglycaemia  Screen | See Labels | See Labels | See individual tests | See individual  tests |  | HYPOSCR  N | Chemical  Pathology |
| IgG Subclass 4 | Serum | 4.9ml |  |  | Referral Test | IGG4 | Immunology |
| IgG Subclasses | Serum | 4.9ml | IgG 7.0-16.0 g/L  IgG1 3.824 - 9.286 g/L g/L  IgG2 2.418 - 7.003 g/L g/L  IgG3 0.218 - 1.761 g/L g/L | 8 weeks |  | IGG SUB | Immunology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Immunoglobulins G,A,M | Serum | 4.9mL | IgG: 7.0-16  IgA: 0.7-4.0  IgM: 0.4-2.3 g/L | 72 hours |  | IGG | Chemical Pathology |
| Infectious  mononucleosis Screen | EDTA (pink capped) | 2.6ml standard  1.8 ml paediatric | Negative | 1 Working Day  Urgent: 1 hour |  | IM | Haematology |
| Inflammatory  Arthritis Antibodies | Serum | 4.9mL |  |  |  | INFL ABS | Immunology |
| Infliximab Levels  and Antibodies | Serum | 4.9ml |  |  | Referral Test | INFLIX | Immunology |
| INR | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line | Different ranges depending on the reason the patient was put on Warfarin | In-house: 4 Hours  Urgent: 1.5 hour | INRs only are stable for 24 hrs | INR | Coagulation |
| Insulin & C-Peptide | See Labels | See Labels | See individual tests | 10 days |  | INSCPEP | Chemical  Pathology |
| Insulin Stress Test | See Labels | See Labels | See individual tests | 10 days |  | IST | Chemical  Pathology |
| Insulin Stress Test+  Release Factors | See Labels | See Labels | See individual tests | 10 days |  | ISTRF | Chemical  Pathology |
| Insulin Zero Time / Fasting | Serum (White Cap) | See Labels | Fasting: 2.6 – 24.9mU/L (provided fasting glucose is within normal/  reference range.) | 10 days |  | INS00 | Chemical Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | | | | | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Insulin-Like Growth Factors-1 | Serum (White Cap) | 4.9ml | (ng/ml) | | | | | 20 days |  | IGF1 | Chemical Pathology |
|  | Years | Female | Male |  |
| 0-3y | 16-178 | 13-212 |
| 3-6y | 25-244 | 28-316 |
| 6-9y | 39-371 | 46-443 |
| 10-11y | 67-407 | 75-469 |
| 11-12y | 75-440 | 83-490 |
| 12-13y | 82-467 | 90-505 |
| 13-14y | 89-488 | 96-514 |
| 14-15y | 94-501 | 101-516 |
| 15-16y | 98-505 | 104-512 |
| 16-17y | 101-502 | 107-502 |
| 17-18y | 102-493 | 109-488 |
| 18-19y | 103-478 | 109-472 |
| 19-20y | 102-461 | 109-453 |
| 20-21y | 100-441 | 108-432 |
| 21-26y | 86-419 | 97-411 |
| 26-31y | 74-319 | 84-313 |
| 31-36y | 69-260 | 77-250 |
| 36-41y | 65-236 | 72-225 |
| 41-46y | 59-215 | 65-210 |
| 46-51y | 54-199 | 59-200 |
| 51-56y | 48-187 | 54-197 |
| 56-61y | 43-176 | 48-194 |
| 61-66y | 39-170 | 45-192 |
| 66-71y | 37-166 | 43-195 |
| 71-76y | 35-166 | 40-194 |
| 76-81y | 39-168 | 38-185 |
| 81-85y | 35-176 | 37-183 |
| >85y | 31-175 | 35-180 |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | | | | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Intravenous  Petrosal Sampling | EDTA Plasma  (Blue Cap) | 4.9ml | Site specific samples for ACTH | | | | 10 days |  | IPS | Chemical  Pathology |
| Intrinsic Factor assay Screen | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line |  | FVIII | 0.6-1.36IU/mL |  | Case dependent, maximum  14 days | Tests done in batches. For urgent requests | **IFS** | Coagulation |
| FIX | 0.8-1.47IU/mL |
| FXI | 0.72-1.52IU/mL |
| FXII | 0.52-1.64IU/mL |
|  | | | |
| ISAC Allergy  Microchip | Serum | 4.9ml |  | | | |  | Referral Test | ISAC | Immunology |
| JAK2 V617F  mutation | EDTA sample (pink) | 2-3ml | Not Detected | | | | 4 weeks | Must be sanctioned by the Haematology Team and the Molecular Test Request Form HAEMG-LF-084  **MUST** be completed including patient consent (section C), This form can be obtained from the intranet. If genetic consent is not  obtained the molecular test will be rejected. | JAK2 | Haematology |
| Lactate  Dehydrogenase | Lithium  Heparin | 4.9 ml | Female: 135 – 214 I.U/L  Male: 135 – 225 I.U/L | | | | Routine: 2.5hrs  STAT: 2hrs |  | LDH | Chemical  Pathology |
| Lactate, Arterial  Sample | Arterial  Syringe | 1 mL | **MUST BE ON ICE**  **Do not send via chute system** | | | | 0.5 hours |  | ALACT | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Lactate, Venous Sample | Arterial Syringe or  Lithium Heparin | 2.7ml (Li-Hep tube)  1 mL (ABG  syringe) | **MUST BE ON ICE**  **Do not send via chute system** | 0.5 hours |  | VLACT | Chemical Pathology |
| LDH (Fluid) | Plain | 5ml | N/A | Routine: 2.5hrs  STAT: 2hrs |  | FLLDH | Chemical  Pathology |
| Lithium Serum | Serum  (White Cap) | 4.9ml | 0.6 – 1.2 mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | LI | Chemical  Pathology |
| Lipid Profile (Fasting) | Lithium Heparin | 4.9ml | Cholesterol ≤ 5.0mmol/L  LDL (calculated) ≤ 3.0mmol/L HDL Cholesterol ≥ 1.0mmol/L Triglycrides ≤ 1.7mmol/L  Non HDL cholesterol ≤ 3.8mmol/L | Routine: 2.5hrs STAT: 2hrs |  | FHDL | Chemical Pathology |
| Lipid Profile (Non Fasting) | Lithium Heparin | 4.9ml | Cholesterol ≤ 5.0mmol/L  LDL (calculated) ≤ 3.0mmol/L HDL Cholesterol ≥ 1.0mmol/L Triglycrides ≤ 2.0mmol/L  Non HDL cholesterol ≤ 3.8mmol/L | Routine: 2.5hrs STAT: 2hrs |  | HDL | Chemical Pathology |
| Liver Antibodies | Serum | 4.9ml |  |  |  | LIV ABS | Immunology |
| Liver Function | Lithium  Heparin | 4.9ml | See individual tests | Routine: 2.5hrs  STAT: 2hrs |  | LIVER | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Lupus anticoagulant | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line | DRVV-S: <1.17 RatiosDRVVTR<1.23  SCT TR<1.14 | 4 weeks | Batch tested Please include anticoagulation details on PIPE prompt.  Patients must not be on any anticoagulation as they interfere with the interpretation of the assay. | LA | Coagulation |
| Lutenising Hormone | Serum | 4.9ml | Follicular: 2.4 - 12.6 U/L  Ovulation: 14.0 - 95.6 U/L  Luteal: 1.0 - 11.4 U/L  Post Menopausal: 7.7 - 58.5 U/L  Male : 1.7 - 8.6 U/L | 3 days |  | LH | Chemical Pathology |
| Lutenising  Hormone Releasing F. | See Labels | 4.9ml | See individual tests | See individual tests |  | LHRH | Chemical Pathology |
| Lymphocyte Subsets | EDTA (pink capped) | 2ml | CD3#797-2996Cells/ul CD3/4#502-1749Cells/ul CD3/8#263-1137Cells/ul CD19#99-618Cells/ul CD56#72-577Cells/ul | 2 Working days | Samples must be  <24 hours old. Only processed Monday to Friday.  Must be Received in Laboratory before 3pm on a Friday | LY\_SUB | Haematology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Lymphoid Screening Tube | Sodium Heparin (orange capped - BMA)  (white capped,RPMI, –cytogenetics bottle Lymph Node Aspirate)FNA | 2 mL | N/A | Written report: 10 working days Verbal report: 24 hours | All samples must be less than 24 hours old  Must be Received in Laboratory before 3pm on a Friday | LST | Haematology |
| Lymphoproliferativ e Panel | EDTA (pink) Sodium Heparin (orange - BMA)  with 1ml RPMI | 2ml | N/A | Written report: 10 working days Verbal report: 24 hours | EDTA samples must  be < 24 hours old. | LY\_PRO | Haematology |
| Sodium Heparin (orange capped – BMA) with 1mL  RPMI must be < 48 hours old |
| Lymphocyte Transformation Test | 7mls SERUM, and 7mls Li- HEP for every  2 drugs tested |  |  |  | Referral Test | LTT | Immunology |
| Magnesium | Lithium  Heparin | 4.9ml | 0.66 – 1.07 mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | MG | Chemical  Pathology |
| Magnesium - 24  Hour Urine | 24 Hour Urine | N/A | 3.0 – 5.0 mmol/24hrs | Routine: 24hrs  STAT: 2.5hrs |  | URMG | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Malaria: Rapid Diagnostic Test(RDT) and Blood Film | EDTA(pink capped) | 2.6 ml Standard | Negative | 2 hrs for RDT. 4 hours to next working day dependant on RDT results for Blood films. If RDT is negative, films will be processed the next  working day | Samples must be < 2 hours old.  Patients must attend the Hospital Phlebotomy/A&E Department for sample collection. | M\_PARA | Haematology |
| Mannose Binding  Lectin (MBL) | Serum | 4.9ml | 0.55 – 4.00 mg/L | 2-3 months |  | MBL | Immunology |
| Mast Cell Tryptase | Serum | 4.9ml | 2-14 μg/L (Anti-mortem specimens  only) | 1 month |  | TRYPTASE | Immunology |
| Meningococcal  Serotype Specific Antibodies | Serum | 4.9ml |  |  | Referral Test | MENINGO | Immunology |
| Methadone | Spot urine | N/A | N/A | Temporarily outsourced. 5 days | Qualitative test only: positive / not  detected | UDOA | Chemical Pathology |
| Methaemoglobin | Arterial Syringe or  Lithium Heparin | 1 mL (ABG  syringe)  2.7 mL (Li-Hep Tube) | 0.0 – 1.5% | 0.5 hours |  | METHB | Chemical Pathology |
| Methanol | Serum (White Cap) | 4.9ml | Units: mg% | 24 hours | Please contact senior staff in  Biochemistry when ordering | METHANO L | Chemical Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Meyloproliferative neoplasm screen | EDTA sample (pink) | 2.6ml Standard | Not detected | 8 weeks | Must be sanctioned by the Haematology team  MPN (Molecular test request from HAEMG-LF-084,  must be completed. |  | Haematology |
| Mixing study | Trisodium citrate 9 NC/2.9 mL  (green capped)  **2 samples required** | **Must** be filled to the line | Corrected to within the PT and APTT normal ranges | 1 week | Lab criteria for mixing study are prolonged PT or APTT when patient is not on anticoagulant and the liver function is normal. For urgent requests, contact the laboratory in the morning, may be able to facilitate  testing that day. | MS | Coagulation |
| Myositis Screen | Serum | 4.9ml | Negative | 4-6 weeks |  | MYOSITIS | Immunology |
| Oestradiol | Serum | 4.9ml | Male: 41.4 – 159 pmol/L Female:  Follicular: –114-332 pmol/L  Ovulation: 222-1959 pmol/L  Luteal: 222-854 pmol/L  Post Menopausal: 18.4 - 505 pmol/L | 3 days |  | E2 | Chemical Pathology |
| Opiates | Spot urine | N/A | N/A | Temporarily outsourced. 5 days | Qualitative test only:  positive / not detected | UDOA | Chemical Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Osmolality Plasma | Lithium  Heparin | 4.9ml | 275 – 295 mOsm/Kg | Routine: 24hrs  STAT: 4hrs |  | OSMOP | Chemical  Pathology |
| Osmolality Urine | MSU | 25ml | 400-1000 mOsm/Kg | Routine: 24hrs  STAT: 4hrs |  | OSMOU | Chemical  Pathology |
| Neutrophil Oxidative Burst | EDTA |  |  |  | Referral Test - by  prior arrangement only | OXBURST | Immunology |
| Paracetamol - Serum | Serum (White Cap) | 4.9ml |  | Routine: 2.5hrs STAT: 2hrs | In suspected overdose, take  sample more than 4 hours post ingestion | PARAC | Chemical Pathology |
| Paraneoplastic Antibody Screen (incorporating Anti- Hu, Anti-Yo, Anti- Ri, Anti-PNMA2,  Anti- Amphiphysin, Anti-Cv2/CRMP5, Anti-Recoverin, Anti-SOX1, Anti- Zic4, Anti-Titin,  Anti-GAD65, Anti- Tr) | Serum | 4.9ml | Negative | 15 days (urgent available on request) | Paired Serum/CSF samples will be accepted. Results of both must be interpreted in the clinical context. | PARANEO P | Immunology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Paraneoplastic Antibody Screen on CSF (incorporating Anti-Hu, Anti-Yo, Anti-Ri, Anti- PNMA2, Anti-  Amphiphysin, Anti- Cv2/CRMP5, Anti- Recoverin, Anti- SOX1, Anti-Zic4, Anti-Titin, Anti- GAD65, Anti-Tr) | CSF |  | Negative | 15 days (urgent available on request) | Paired Serum/CSF samples will be accepted. Results of both must be interpreted in the clinical context. | NEUROCS F | Immunology |
| Paraquat | Serum  (White Cap) | 4.9ml | Qualitative | 24 hours |  | PQUAT | Chemical  Pathology |
| Parathyroid  Hormone | EDTA Plasma  (Blue Cap) | 4.9ml | 15-65 pg/ml | 3 days |  | PTH | Chemical  Pathology |
| Paroxysmal Nocturnal Haemoglobinuria | Fresh EDTA (pink capped) | 2.6ml Standard | N/A | Written report: 10 working days Verbal report: 24 hours | Arrange in advance with Laboratory personnel. Sample may be stored in fridge for <48 hours if not for immediate  testing | PNH | Haematology |
| pH (fluid) | Arterial  Syringe | 1.0ml |  | 0.5 hours |  | FLPH | Chemical  Pathology |
| Phenobarb | Serum  (White Cap) | 4.9ml | 10.0 - 40.0 mg/L | Routine: 2.5hrs  STAT: 2hrs |  | PHB | Chemical  Pathology |
| Phenytoin | Serum  (White Cap) | 4.9ml | 5.0-20.0 mg/L | Routine: 2.5hrs  STAT: 2hrs |  | PTN | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Phosphate | Lithium  Heparin | 4.9ml | 0.81 – 1.45 mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | PO4 | Chemical  Pathology |
| Phosphate - 24  Hour Urine | 24 Hour Urine | N/A | 13.00 – 42.00mmol/L | Routine: 24hrs  STAT: 2.5hrs |  | URPO4 | Chemical  Pathology |
| Pituitary Screen | See Labels | See Labels |  | 20 days |  | PITSCR | Chemical  Pathology |
| Plasma Metanephrines | EDTA Plasma (Blue Cap) on Ice | 7.5mL | Plasma Metanephrine: 0-510pmol/L Plasma Normetanephrine: 0- 1180pmol/L  Plasma 3-Methoxytyramine: 0- 180pmol/L | Routine 576hours  Urgent samples prior arrangement by phone to 01-  8092351. | Overnight fasting sample to be transported on Ice to the lab and centrifuged within 1  hour of collection. | PMETS | Chemical Pathology |
| Platelet Check | 0.82mgMg2+/ mL  (Red) | 2.mL | 140 -400 x109/L | In-house: 4 Hours  Urgent: 1.5 hour | Arrange in advance with laboratory to obtain sample tube. | PLTEXAC T  (Can only be ordered in the laboratory) | Haematology |
| Pneumococcal Serotype  Antibodies | Serum | 4.9ml |  |  | Referral Test | SSTPNEU M | Immunology |
| Post Transplant GTT(Timed GLUC  and INS) | See Labels | See Labels | See individual tests | See individual tests |  | PTGTT | Chemical Pathology |
| Potassium | Lithium  Heparin | 4.9ml | 3.5 – 5.3 mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | K | Chemical  Pathology |
| Potassium - 24  Hour Urine | 24 Hour Urine | N/A | 30.0 – 100.0 mmol/L | Routine: 24hrs  STAT: 2.5hrs |  | URK | Chemical  Pathology |
| Potassium - Spot  Urine Sample | MSU | 25ml | Units: mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | USK | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Potassium (fluid) | Plain | 5ml |  | Routine: 2.5hrs  STAT: 2hrs |  | FLK | Chemical  Pathology |
| Progesterone | Serum | 4.9  ml | Male: 0.159 - 0.474 nmol/L Female:  Follicular: 0.159 – 0.616 nmol/L  Ovulation: 0.175 – 13.2 nmol/L  Luteal: 13.1 – 46.3 nmol/L  Post Menopasal: 0.159-0.401 nmol/L | 3 days |  | PROG | Chemical Pathology |
| Prolactin | Serum | 4.9ml | Total Prolactin  Female: 102-496 mIU/L  Male: 86-324 mIU/L  Bioactive Prolactin:  Female: 75-381mIU/L Male: 63-245 mIU/L  Bioactive prolactin is the biologically active form of prolactin. | Routine: 3 days STAT: Discuss with laboratory. |  | PRL | Chemical Pathology |
| Prostate Specific Antigen | Lithium Heparin | 4.9ml | Male <50 < 2ug/L 50 – 59 < 3ug/L  60 – 69 < 4ug/L  70 + < 5ug/L | 3 days |  | PSA | Chemical Pathology |
| Protein & Albumin | Lithium  Heparin | 4.9ml | See individual tests | Routine: 2.5hrs  STAT: 2hrs |  | PR/ALB | Chemical  Pathology |
| Protein & Albumin  (fluid) | Plain | 5ml | See individual tests | Routine: 2.5hrs  STAT: 2hrs |  | FLPR/ALB | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Protein C | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line | 0.74- - 1.32 IU/mL | 4 weeks. | Batch tested. Patient must be off warfarin for a  minimum of 2wks to perform this assay. | PC | Coagulation |
| Protein Total | Lithium  Heparin | 4.9 ml | 60 - 80 g/L | Routine: 2.5hrs  STAT: 2hrs |  | PROT | Chemical  Pathology |
| Protein, Albumin &  Globulin | Lithium  Heparin | 4.9ml |  | Routine: 2.5hrs  STAT: 2hrs |  | PRALGL | Chemical  Pathology |
| Protein-Creatinine  Ratio | MSU | 5ml | 3 - 14 mg/mmol | Routine: 24hrs  STAT: 2.5hrs |  | UPRCR | Chemical  Pathology |
| Prothrombin (G20210A)  mutation | EDTA sample (pink) | 2-3ml | Negative | 5 weeks | Genetic consent must be completed on TPSC request form  HAEMC-LF-023 | PT\_MUT | Coagulation |
| Query Test | Serum | 4.9ml | As appropriate | As per assay | Full clinical details  and contact bleep number required | QT | Immunology |
| Query Test CSF | CSF |  | As appropriate | As per assay | Full clinical details  and contact bleep number required | QTCSF | Immunology |
| Referral Blood Film | EDTA(pink capped) | 2.6mL standard  1.8 ml paediatric | N/A | Routine: 7 working days Urgent: 24 hours | Blood film sent to Haematology Team for review. Report will follow within 7 days. | **REF\_FIL M**  Only ordered by  Haematolog y staff | Haematology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Reticulocyte Count | EDTA (pink capped) | 2.6ml standard  1.8 ml paediatric | Retic: 0.4-1.9% Male  0.4-1.8 % Female Retic (Abs) 14-100 x109/L | In-house: 4 Hours  Urgent: 1 hour | 7.5ml and 10ml  EDTA samples not acceptable | RETFBC | Haematology |
| Renin | EDTA Plasma  (Large Pink Cap) | 7.5mL | Female: 6.1 – 62.7mIU/L Male: 9.0 – 103.5mIU/L | 20 days | . | RENIN | Chemical Pathology |
| Rheumatoid Factor | SerumSerum,  White tube | 4.9ml6 mls | <20 IU/mL | 3-6 days |  | RF | Immunology |
| Risk (CHO/TRIG/Urate) | Lithium Heparin | 4.9ml | See individual tests | Routine: 2.5hrs STAT: 2hrs |  | RISK | Chemical Pathology |
| Risk Profile,  Fasting | Lithium  Heparin | 4.9ml | See individual tests | Routine: 2.5hrs  STAT: 2hrs |  | FRISK | Chemical  Pathology |
| Salicylate - serum | Serum (White Cap) | 4.9ml |  | Routine: 2.5hrs STAT: 2hrs | mg/L | SALC | Chemical Pathology |
| Saline Suppression  Test | See Labels | 4.9ml | See individual tests | See individual  tests |  | SALSUP | Chemical  Pathology |
| Scleroderma Profile | SerumSerum,  White tube | 4.9ml  6 mls | Negative | 4-6 weeks |  | SCLRDER  M | Immunology |
| Serum Protein  Electrophoresis | Serum | 4.9ml | Albumin: 35 – 52 g/L And  Interpretative Comment | 840 hours |  | SPE | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Sickle solubility Screen | EDTA (pink capped) | 2.67ml Standard | Negative | Urgent: 2 hours.  Referred to SJH: A verbal report is available 7 days after dispatch.  Phone No.’s:01- 4162394  A printed report is available 6 weeks after dispatch. | This test is performed for urgent pre-op anaesthetic screening only. If urgent, please contact the laboratory. In all other instances, order Haemoglobin Electrophoresis Hb\_El. Complete the SJH request form available at  [http://www.stjames.ie/](http://www.stjames.ie/GPsHealthcareProfessionals/GPExternalRequestForms/Haemoglobinopathy Request Form .pdf) | **SICK\_SC HB\_EL** | Haematology |
| [GPsHealthcareProfess](http://www.stjames.ie/GPsHealthcareProfessionals/GPExternalRequestForms/Haemoglobinopathy Request Form .pdf) |
| [ionals/GPExternalReq](http://www.stjames.ie/GPsHealthcareProfessionals/GPExternalRequestForms/Haemoglobinopathy Request Form .pdf) |
| [uestForms/Haemoglob](http://www.stjames.ie/GPsHealthcareProfessionals/GPExternalRequestForms/Haemoglobinopathy Request Form .pdf) |
| [inopathy%20Request](http://www.stjames.ie/GPsHealthcareProfessionals/GPExternalRequestForms/Haemoglobinopathy Request Form .pdf)  [%20Form%20.pdf](http://www.stjames.ie/GPsHealthcareProfessionals/GPExternalRequestForms/Haemoglobinopathy Request Form .pdf) The Sickle solubility test is a screening method and as such is subject to false positives and negatives. All sickle solubility tests must be confirmed by HPLC/Electrophoresis  . This test is  performed in St James Hospital. |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| **SKIN SCRAPPINGS/ NAIL CLIPPINGS/Hair**  Microscopy  Routine culture | Dermapak  /Sterile 60ml container\* | As much as possible |  | 72 hours  34 days | Swabs are not an appropriate specimen for fungal culture.  Hair must contain root |  | Microbiology |
| **Sex Hormone Binding Globulin** | Serum (White Cap) | 4.9ml | M: 20-49yr: 18.3-54.1 nmol/L  M: ≥ 50yr: 20.6-76.7 nmol/L F: 20-49yr: 32.4-128 nmol/L  F: ≥ 50yr: 27.1-128 nmol/L  No SHBG reference intervals for  <20yr old. | 3 days |  | SHBG | Chemical Pathology |
| Sodium | Lithium  Heparin | 4.9ml | 133 - 146 mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | NA | Chemical  Pathology |
| Sodium - 24 Hour  Urine | 24 Hour Urine | N/A | 40.0 – 220.0 mmol/L | Routine: 24hrs  STAT: 2.5hrs |  | URNA | Chemical  Pathology |
| Sodium - Spot  Urine Sample | MSU | 5ml | Units: mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | USNA | Chemical  Pathology |
| Sodium &  Potassium | Lithium  Heparin | 4.9ml | See individual tests | Routine: 2.5hrs  STAT:2hrs |  | NA/K | Chemical  Pathology |
| Sodium (Fluid) | Plain | 5ml |  | Routine: 2.5hrs  STAT: 2hrs |  | FLNA | Chemical  Pathology |
| Specific IgE | SerumSerum, White tube | 4.9ml6 mls | <0.35 Units: Class 0 Negative  0.35-0.7: Class 1 Weakly Positive  0.7-3.5: Class 2 Positive  3.5-17.5: Class 3 Positive  17.5-52.5: Class 4 Strongly positive  52.5-100: Class 5 Strongly positive  >100: Class 6 Strongly positive | 8 15 days  14 21 days for sIgE to Drugs |  | See LI- IMM- ICAP0010 | Immunology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Specific IgGs sIgG Aspergillus sIgG M. Faeni sIgG Budgie  sIgG Pigeon | SerumSerum, White tube | 4.9ml6 mls | <40 mgA/l  <22 mgA/l  <30 mgA/l  <38 mgA/l | 14 30 days |  | See LI-IMM- ICAP0010 | Immunology |
| Soluble CD163 | SCD163 | Urine |  |  | Referral Test | SCD163 | Dept. of Immunology, St James  Hospital |
| **SWABS**  MRSA Screen VRE Screen CRE Screen  Non uro-genital (e.g. wound, eye, ear, nasal, throat)  Penile/vulval  HVS –microscopy culture | Charcoal Transswab  Charcoal Transswab  Charcoal Transswab  Charcoal Transswab  Charcoal Transswab  Charcoal Transswab | N/A |  | 4 days  4 days  4 days  6 days  6 days  Within 24 hours  4 days | MRSA- Only from Nasal, Groin & if required Wound site Screens Only from rectal swabs  Screens Only from rectal swabs  Relevant clinical details essential  Relevant clinical details essential e.g. surgery, post-partum HVS samples for Trichomonas testing must be received in laboratory on same  day as collection | MRSA  VRE  CRE | Microbiology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Synacthen  Stimulation Test | See Labels | 4.9ml |  | Routine: 24hrs  STAT: 2hrs |  | SYNACTH | Chemical  Pathology |
| Tacrolimus (FK506) | Whole Blood EDTA | 2.6ml |  | 72hrs. Cut off for receipt of samples  for same day analysis is 11am. |  | FK506 | Chemical Pathology |
| TB Urine  TB  (pus/fluid/bone/aspi rate)  TB (Blood) | Sterile 60ml container\*  Sterile container  TB Blood Culture Bottle | 15mls  15mls |  | 65 days  65 Days  65 Days | 3 consecutive morning samples | TBCULT  TBCULT BLDTBC | Microbiology |
| T-Cell Panel | EDTA (pink capped) Sodium Heparin (orange capped) with 1ml RPMI | 2ml | N/A | Written report: 10 working days Verbal report: 24 hours | EDTA samples must be < 24 hours old.  Sodium Heparin (orange capped - BMA)  with 1ml RPMI must be < 48 hours old | T\_PANEL | Haematology |
| Testosterone | Serum (White Cap) | 4.9mL | Male: (19 - 50y): 8.6 - 29.0 nmol/L  (≥50y): 6.7 - 25.7 nmol/L Female:  (19 - 50y): 0.3 - 1.7 nmol/L  (≥50y): 0.1 –1.4 nmol/L | 3 days |  | TESTO | Chemical Pathology |
| Tetanus antibodies |  |  |  | 2/3 weeks |  |  | Microbiology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| THEATRE SPECIMENS  Microscopy  Routine  Culture  TB  CultureAntibodies | Sterile container/ | As much as possible |  | 4-6hours 10-14 days  68 days | Do not place specimens in formalin and do not use histology containers.  Specimens must be hand-delivered to laboratory.  Request form must contain type and site of specimen | THEATSP | Microbiology |
| Theophylline | Serum  (White Cap) | 4.9ml | 10.0 - 20.0 mg/L | Routine: 2.5hrs  STAT: 2hrs |  | THEO | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Thrombophilia screen | Trisodium citrate 9 NC/2.9 mL  (green capped)  **4 samples required** | **Must** be filled to the line | See individual requests APCR, PC, FPS, AT3 and LA. | 4 weeks. | Batch tested.  The Thrombophilia screen (TPSC) includes the following tests: PT, APTT, FIBN, D- DIMER,  LA, AT3,PC, FPS, APCR  5LEIDEN\*and PT\_MUT\*.  Hence, these  Tests do **not** need to be ordered on an individual basis.  In order to be processed the following MUST accompany the samples.   1. A Beaumont Hospital Thrombophilia Screen Request Form HAEMC- LF-023   (including consent to genetic testing signed by the patient).   1. the name of the sanctioning haematology team Dr, 2. Anticoagulant therapy details | TPSC | Coagulation |
| Thyroid Function  Tests | Lithium  Heparin | 4.9ml | See individual tests | 3 days |  | TFT | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Thyroid Stimulating  Hormone | Lithium  Heparin | 4.9ml | 0.27 – 4.20 mU/L | 3 days |  | TSH | Chemical  Pathology |
| Thyrotropin  Releasing Factor | See Labels | 7.5ml |  |  |  | TRH | Chemical  Pathology |
| **TIPS** | Sterile/ Universal  Container for culture |  |  | 4 days |  | TCULT | Microbiology |
| Total CO2 / Bicarbonate | Lithium Heparin | 4.9ml | Bicarbonate: 22 - 29 mmol/L Samples must be freshly drawn | Routine: 2.5hrs STAT: 2hrs |  | TCO2 | Chemical Pathology |
| Total IgE | SerumSerum,  White tube | 4.9ml6 mls | Range is age related.  Adult reference range 0-100 kU/L | 8 15 days |  | TIGE | Immunology |
| Total Urinary  Proteins | 24 hr Urine | 25ml | 0.05 - 0.14 g/24HR | Routine: 24hrs  STAT: 2.5hrs |  | TUP | Chemical  Pathology |
| Transfusion Reaction Investigation | 7.5ml EDTA  Specimen +  7.5ml clotted serum specimen | Minimum volume of 2.5ml. | Mon-Fri 0800hrs-1700hrs Sat 0900hrs-1300hrs.  Urgent requests at any time | Depends on the complexity of investigation. Delays will occur if referred to IBTS  for investigation | Should be sent to the hospital Blood Bank as soon as possible after taking the specimens including  the blood pack. | TRX | Blood Transfusion |
| Tricyclic Antidepressants | Serum (White Cap) | 4.9ml | N/A | Routine: 2.5hrs STAT: 2hrs | Qualitative test only: positive / not  detected | BDS | Chemical Pathology |
| Triglyceride | Lithium  Heparin | 4.9ml | Fasting: 0.5 – 1.7mmol/L  Non Fasting: 0.5 – 2.0mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | TRIG | Chemical  Pathology |
| Triglyceride (Fluid) | Plain | 5ml | N/A | Routine: 2.5hrs  STAT: 2hrs |  | FLTRIG | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Troponin T (Must have a  dedicated sample) | Lithium Heparin | 2.7ml | < 14 ng/L | 1.5hours |  | TNT | Chemical Pathology |
| Type & Screen | Adult: 7.5ml Specimen bottle labelled: “EDTA - FOR BLOOD  BANK” for Type & Screen.  Children: As per above or contact BTD for advice if required. | 2.5ml | Routine Requests Mon-Fri 08.00hrs to 17.00hrs,  Restricted Service on Sat 09.00 to- 123.00  Urgent requests at any time.  For elective surgical cases, TS specimens should be received in by  17.00 hrs on day prior to surgery | Routine specimens’: minimum of 1.5 hours to process where no antibody is detected in the TS specimen.  Emergency specimen: 45-60 minutes where no antibody(s) have been detected.  ABO/Rh grouping: 20-30 mins from time of receipt of specimen.  Uncrossmatched Group O Rh Negative Red Cells: Immediate issue. | Take TS specimens using the Blood Track™ PDA devices.  When the BloodTrack™ PDA device is not available, the patient details must be handwritten on the specimen bottle and must be sent to the hospital Blood Bank as soon as possible after taking the specimen. | TS | Blood Transfusion |
| Type 1 Diabetes  Panel | Serum | 4.9ml |  |  | Referral Tests | T1DMAB | Immunology |
| U/E  (UREA/NA/K/CL/ CREAT) | Lithium Heparin | 4.9ml | See individual tests | Routine: 2.5hrs STAT: 2hrs |  | RENAL | Chemical Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Urate - 24 Hour  Urine | 24 Hour Urine | N/A | 1.20 – 5.90mmol/24hrs | Routine: 24hrs  STAT: 2.5hrs |  | URURATE | Chemical  Pathology |
| Urate/Uric Acid | Lithium  Heparin | 4.9ml | Female: 143 - 340µmol/L  Male: 202 - 416µmol/L | Routine: 2.5hrs  STAT: 2hrs |  | URATE | Chemical  Pathology |
| Urea | Lithium  Heparin | 4.9ml | 2.8 – 8.1mmol/L | Routine: 2.5hrs  STAT: 2hrs |  | UREA | Chemical  Pathology |
| Urea - 24 Hour  Urine | 24 Hour Urine | N/A | 428.0 – 714.0mmol/24hrs | Routine: 24hrs  STAT: 2.5hrs |  | URUREA | Chemical  Pathology |
| Urea - Spot Urine  Sample | MSU | 5ml | mmol/L | Routine: 24hrs  STAT: 2.5hrs |  | USUREA | Chemical  Pathology |
| Urea (Fluid) | Plain | 5ml | N/A | Routine: 2.5hrs  STAT: 2hrs |  | FLUREA | Chemical  Pathology |
| Urea Nitrogen - 24  Hour Urine | 24 Hour Urine | N/A |  | Routine: 24hrs  STAT: 2.5hrs |  | URUN | Chemical  Pathology |
| UREA/NA/K/CL/C  REAT/TCO2 | Lithium  Heparin | 4.9ml | See individual tests | Routine: 2.5hrs  STAT: 2hrs |  | PETBIO1 | Chemical  Pathology |
| Urinary Catecholamines & Metanephrines | 24 Hour Pre- Acidified Urine | 5mL | Dopamine: <3.300umol/24hours Adrenaline: <0.230umol/24hours Noradrenaline: <0.900 umol/24hours  Total Metanephrine: <1.800 umol/24hours  Total Normetanephrine: <2.800 umol/24hours | Routine: 288hrs  Urgent samples prior arrangement by phone to 01- 8092351. |  | UCATMET  or METS | Chemical Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| **URINE**  Microscopy Routine culture  Pregnancy test Legionella antigen Streptococcus pneumoniae antigen  TB culture | Sterile 60ml container\* | 10 mls | N/A | Within 24 hours from receipt  6 days  Same day Same day Same day  68 days | **Pregnancy Test**: Samples received from Emergency department or the Day Theatre for HCG are processed within 30 mins of receipt.  3 consecutive EMUs needed | URCULT  URCULT | Microbiology |
| Urine Drug of  Abuse Screen | MSU | 25ml | Qualitative | Temporarily  outsourced. 5 days |  | UDOA | Chemical  Pathology |
| Urine Protein  Creatinine Ratio | MSU | 5ml | 3 - 14 mg/mmol | Routine: 24hrs  STAT: 2.5hrs |  | UPRCR | Chemical  Pathology |
| Urine Protein Electrophoresis: (BJP) or Myeloma Screen  Known Myeloma Patient | EMU (early morning urine)  24 Hour Urine | N/A | Qualitative | 840 hours |  | UPE | Chemical Pathology |
| Valproic Acid | Serum  (White Cap) | 4.9ml | 50 – 100 mg/L | Routine: 2.5hrs  STAT: 2hrs |  | VALP | Chemical  Pathology |
| Vasculitis Screen | Serum | 4.9ml |  |  |  | VAS SCR | Immunology |
| Vit.B12 / Folic  Acid | Lithium  Heparin | 4.9ml | See individual tests | 3 days |  | B12F | Chemical  Pathology |
| Vitamin B12 | Lithium  Heparin | 4.9ml | 197 – 771ng/L | 3 days |  | B12 | Chemical  Pathology |

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| **Test** | **Specimen Container** | **Minimum Volume** | **Reference Range/Availability** | **TAT** | **Comment** | **Mnemonic** | **Laboratory Department** |
| Vitamin D | Serum | 4.9ml | Deficient: ≤ 50nmol/L | 10 days |  | VIT D | Chemical  Pathology |
| Von Willebrand factor | Trisodium citrate 9 NC/2.9 mL  (green capped)  **2 samples required** | **Must** be filled to the line | 0.49 – 1.73 IU/mL | Case dependent, maximum 14 days |  | VWF | Coagulation |
| Warfarin office INR | Trisodium citrate 9 NC/2.9 mL  (green capped) | **Must** be filled to the line | Therapeutic Range is dependent on clinical condition | In-house: 4 Hours  Urgent: 1.5 hour | Warfarin Office contact no.  01-8092083  WINRs are stable for 24 hrs | WINR | Coagulation |
| Water Deprivation Test (10 timed plasma and urines  samples for osmolality) | See Labels | 4.9ml plasma 5 mL urine |  | 24 hours |  | WDT | Chemical Pathology |

Chemical Pathology

Send Out

## Requests Referred Externally.

### The table below lists all items that are available to order on PIPE for analysis in external laboratories. It indicates the order mnemonic, sample type required and the referral laboratory contact information. Specific conditions attached to an order such as fasting or sample on ice etc. are listed on the PIPE ordering page of the item. Due to issues of sample storage, labile components and transport /delivery restrictions, we are unable to accept samples for dispatch as specified in the orders on PIPE and in the table below.

### Samples for delivery to England and Europe are only sent from Ireland Monday to Wednesday, excluding Bank Holidays. Sample are referred locally daily.

| **Test Description** | **Conditions/ Comments/ Restrictions** | **Sample type on label** | **Provider** |
| --- | --- | --- | --- |
| 11-Deoxycortisol | Send samples from endocrine teams, otherwise must be checked / approved by endocrinology prior to dispatch. | WHIT | Vincents |
| 17-Hydroxy Progesterone | Send sample s from endocrine teams,othewise must be checked / approved by endocrinology prior to dispatch. | WHIT | Eurofins |
| Acid maltase | See Alpha Glucosidase |  |  |
| Angiotensin Converting Enzyme (ACE) |  | WHIT | Eurofins |
| Acylcarnitine | Guthrie Card, order urorgac also, fill out special card. Kit 2 | Card available from 2668 | Temple St \*\* |
| Adrenal Vein Sampling | Multiple site specific samples for cortisol and aldosterone.  Single sample – analysed by MS | 2.7mL EDTA | Wythenshawe |
| ALA | Order Porphyrins, Uporphyr For A Known / Diagnosed Patient Being Monitored |  |  |
| Alkaline Phosphatase (Placental) | Not For CSF See CSFPLAP | WHIT | Eurofins |
| Alkaline Phosphatase Isoenzymes | Bone / intestinal / liver / placental as comment. Include alk phos result with order. Only send if alk phos is elevated. | WHIT | Charing Cross |
| Alpha glucosidase (pompe disease) | Can Only Be Drawn Mon, Tue And Wed To 2pm, Or Willdbs Can Be Done Any Day | REDL | Willink |
| Alpha α Galactosidase (Fabrys Disease) | Can Only Be Drawn Mon, Tue And Wed To 2pm, Or Willdbs Can Be Done Any Day | REDL | Willink |
| Alpha-1-Acid Glycoprotein |  | WHIT | Eurofins |
| Aluminium | Trace element free tube & needle required. Tube no. 3 | METL | Public Analysts |
| Amino acid screen, plasma | Send to laboratory for immediate processing. Relevant clinical information must be suppplied at time of order as per pipe. | OICE | Temple Street \*\* |
| Amino acid screen, urine | Fresh sample, send to laboratory for immediate freezihg. Relevant clinical information must be supplied at time of order as per pipe. | MSU | Temple Street \*\* |
| Amino laevulinic acid  (ALA) | Order porphyrins, uporphyr for a known / diagnosed patient being monitored. |  |  |
| Amiodarone Cordarone |  | WHIT | Eurofins |
| Ammonia (Plasma) | Send to lab within 15 mins for immediate processing, relevant clinical information must be supplied at time of order as per PIPE | OICE | Temple Street \*\* |
| Amylase Isoenzymes | Include Amylase Result With Request | ORAN | Eurofins |
| Arginine Vasopressin | Send to laboratory on ice for immediate processing. Minimum vol. of 2 ml plasma required. Send osmo result with request | OICE | SASN |
| Arsenic | Urine Arsenic Must Be Checked First, If Positive Plasma Will Not Be Tested | ORAN | Eurofins |
| Arylsulphatase A | Can Only Be Drawn Mon, Tue And Wed To 2pm | REDL | Willink |
| Asialotransferrin | Fluid? CSF, in a plain container (b2transferrin, transferrin isoforms, also known as tau-transferrin – not to be confused with tau-protein) | FLUID | Inst. Neur |
| Beta β Galactosidase | Can Only Be Drawn Mon, Tue And Wed To 2pm | REDL | Willink |
| B-Hydroxybutyrate | Part of a hyposcrn order.  Send glucose result with request & clearly specify the time of draw as per label – there may be more than one request for this test – it is important to label each sample very clearly. | ORAN | Surrey |
| Cadmium, Urine | Acid Washed Container Required | URIN | Public Analysts |
| Caffeine | Trough Sample | WHIT | Eurofins |
| Calcitonin | Send Both Aliquots | ICEW | Mater Public |
| Carnitine (Total & Free). | Can Only Be Drawn Mon, Tue And Wed To 2pm | ORAN | Willink |
| Cholestanol | Only To Be Drawn Mon, Tue And Wed To 2pm | REDL | Sheffield |
| Cholinesterase Serum (Pseudo) |  | WHIT | St. James’s |
| Cholinesterase, red cell.  Not PIPE orderable | Inhibition studies, phenotype and genotype. Not pipe orderable. Take an orange and a large edta. |  | Bristol |
| Chromium &Cobalt | For metal-on-metal hips. Use metal free tube and needle. | METL | Eurofins |
| Chromogranin A | 16 Hr Fast Required, Separate And Freeze Immediately | ICEW | St. James’s |
| Clozapine | Form 7 Must Accompany Sample | PINK | Kings |
| Copper serum |  | WHIT | Public Analysts |
| Copper – urine | Acid washed container required. Note total urinary volume as a comment. | 24HU | Public Analysts |
| Coproporphyrin | Component of Faeces porphyrin and Urine porphyrin. Order Porphyrins |  |  |
| Cortisol by MS | For patients on Metyrapone. For Endocrine team. | Serum | Whythenshawe |
| Cortisol Binding Globulin | This Is Not TBG | ICEW | Charing Cross |
| CSF ACE |  | CSF | Neuormetab |
| CSF Alpha Fetoprotein |  | CSF | Charing Cross |
| CSF bHCG |  | CSF | Charing Cross |
| CSF For Total TAU-Protein &  Ab1-42 Protein | Unhaemolysed CSF taken into a polypropylene tube. Store in -80⁰c, freeze within 2 hours of collection, in haematology pcr room, (L1H9) prior to dispatch.  Suitable tubes are:Sarstedt 60.613.010  (Samples for 14-3-3 are processed by neuropathology.) | SPEC | Inst. Neur |
| CSF Oligoclonal IgG | A white Serum sample must accompany CSF, order Oligoser | CSF | Inst. Neur |
| CSF PLAP |  | CSF | Charing Cross |
| CSF Pterins, | Samples must be frozen at the bedside. Sampling MUST be pre-arranged with Biochemistry Laboratory. | CSF | Neurometab |
| CYCLIC AMP (URINE) |  | 24HU | Sheffield |
| Cystine, White Cell, Leucocyte | Can only be drawn mon, tue or wed before 2pm, sample must arrive in uk within 24 hours. Do not store in fridge. Sample must be sent out the day of draw at ambient. Do not put in fridge.  Label packet- ‘do not put in fridge or freezer’ | ORAN | Evelina |
| Equilibrium Dialysis of FT4 | Lab Only Order | WHIT | Addenbrooks |
| Erythrocyte Protoporphyrin, EPP | Component of bporphyr result. See porphyrins. |  |  |
| Erythropoietin |  | WHIT | Eurofins |
| Fabrys | See Alpha-Galactosidase Or Willdbs Or Shires Assay Managed By Dave Farrell, Extn 4775, Done On Females |  |  |
| Faecal Elastase |  | FAECES | Eurofins |
| Free Erythrocyte Porphyrin | Includes Free Protoporphyrin | REDL | St. James’s |
| Fructosamine |  | EDTA | Coombe |
| Galactocerebrosidase Krabbe | can only be drawn mon, tue and wed to 2pm | REDL | Willink |
| Gastrin | 16 Hr Fast , Send To Laboratory On Ice For Immediate Processing | ICEW | St. James’s |
| Gel Filtration Of Prolactin | Lab Only Order, Based On Prolactin Result Refer To Endo | WHIT | South |
| Glucagon | 16 Hr Fast , Send To Laboratory On Ice For Immediate Processing | REDL | RVH |
| Glucagon Timed Samples | Send To Laboratory On Ice For Immediate Processing | REDL | RVH |
| Glycosaminoglycans | Fresh sample, freeze immediately. Clinical information essential | MSU | Temple Street \*\* |
| Growth Hormone Releasing Hormone | Tube from biomnis, EDTA/aprotonin. Tube no 1 | Special tube on ice | Eurofins |
| HBAIC Variants | For referral of samples for identification of Hb variants, lab only order. | FBC | Eurofins |
| Hexosaminidase A /Tay Sachs | Can Only Be Drawn Mon, Tue And Wed To 2pm | REDL | Willink |
| Homocysteine Blood | Heparin sample on ice. Not for GP patients. Sample must come on ice and be promptly spun and separated, then stored in fridge | OICE | Eurofins |
| Homocystine (Urine) | Ordering doctor consult temple street fasting, early morning sample, freeze in < 1 hour. Clinical information essential | MSU | Temple Street \*\* |
| Hydroxyproline | See order item notes for conditions. Note total urinary volume as a comment. | 24HU | Eurofins |
| Inhibin A and B | Only For Oncology, Do Not Send If Haemolysed. Single Sample Sufficient For A & B | ICEW | Eurofins |
| Insulin-Like Growth Factor Binding Protein-3 IGFBP3 | Separate and freeze within 4hrs  Attach clinical data. | ICEW | AMNCH |
| Ketones | Done On A Meter In The Ward |  |  |
| Lamotrigine | Lamictal, Larig, Lamoro | ICEW | Eurofins |
| Lead |  | ORAN | Public Analysts |
| Levetiracetam | Keppra | WHIT | Eurofins |
| Lipase |  | WHIT | Eurofins |
| Lipoprotein (A) |  | WHIT | Eurofins |
| Macroprolactin GFC | See GFCPRL Order |  |  |
| Manganese | Only For Long Term Tube Feeding, Use Metal Free Needle | EDTA | Public Analysts |
| Mercury |  | REDL | Public Analysts |
| Metabolic Screen | Urine organic acids & plasma amino acids see order above. |  | Temple Street \*\* |
| Methionine | See plasma amino acid screen above |  |  |
| Methotrexate | Samples are referred directly to St. James’s hospital by the requesting ward, by prior arrangement with SJH. The laboratory does not deal with methotrexate levels. |  |  |
| Methyl Malonic Acid | Fresh sample, freeze immediately. Specify methyl malonic on the request form. Clinical information essential | MSU | Temple Street \*\* |
| Mitotane |  | ORAN | Mitotane |
| Mucopolysaccharide Confirmation | Order Urorganic Acids As 1st Line Screening Test | MSU | Willink |
| Mucopolysaccharides | Order METABSCR, HEP & MSU Required (URORGAC, AMACP) temple streetreet do an initial mucoploysaccharide screen – if positive a sample needs to be sent to Willink for URMPS. Clinical information essential | SEE | Temple Street \*\* |
| Mycophenolate | Trough Sample | EDTA | Eurofins |
| 5- oxoproline | Fresh sample, freeze immediately. Specify Oxoproline on the request form as an order comment, OC.. Clinical information essential | MSU | Temple Street \*\* |
| P3NP | See Procollagen 3 |  |  |
| Oxalate, Urine | Plain 24 hr collection | 24 Hr Urine | Eurofins |
| Panceatic Polypeptide Zero Time | 16 hr fast required on ice, separate & freeze immediately | REDL | RVH |
| Pancreatic Polypeptide | 16 hr fast required, on ice, separate & freeze immediately | REDL | RVH |
| Pancreatic Polypeptide -10 Mins | 16 hr fast required on ice, separate & freeze immediately | REDL | RVH |
| Phenytoin free | Discuss with G Collier | Serum - White | Liverpool |
| Phytanic Acid | Also includes pristanic acid. | REDL | Willink |
| PIIINP | See Procollagen 3 |  |  |
| Pompe | See Alpha Glucosidase Or WILLDBS |  |  |
| Porphobilinogen, PBG | Component of uporphyr profile, see porphyrins. |  |  |
| Porphyrins | 4 samples, heparin, edta, urine, faeces, all must be foil wrapped.  Refer to the individual items:  BPORPHYR – Whole Blood- EDTA  PPORPHYR – Plasma – Li Hep  UPORPHYR - Urine  FPORPHYR – Faecal Sample  Send the PCV result from a recent FBC on the request form. If no FBC ask Haematology to run a PCV on the EDTA sample prior to freezing | See individual components | St. James’s |
| Plasma Porphyrin | Part of a full porphyrin screen, foil wrap. Do not send haemolysed samples | ORAN/FOIL | St. James’s |
| Blood Porphyrin | Part of a full porphyrin screen, foil wrap.  Send the PCV result from a recent FBC on the request form. If no FBC ask Haematology to run a PCV on the EDTA sample prior to freezing | REDL/FOIL | St. James’s |
| Urine Porphyrin | Part of a full porphyrin screen, foil wrap, freeze if delay- particularly at weekend. Note total urinary volume as a comment. MSU will be sufficient for screening | 24HU/FOIL | St. James’s |
| Faecal Porphyrin | Part Of A Full Porphyrin Screen, Foil Wrap | Faeces foil wrapped | St. James’s |
| Prealbumin |  | WHIT/Brown | Eurofins |
| Pristanate | Part Of Phytanic Acid Order |  |  |
| Procollagen 111 | Sent In Batches Monthly | ICEW | Manchester |
| Proinsulin | Send To Laboratory On Ice For Immediate Processing | ICEW | Surrey |
| PTH-RP: PTH Related Peptide. | EDTA/aprotonin. Tube no 1. Lab only order | Special Tube On Ice | Eurofins |
| Pyruvate | Lactate must be done first. Only done if lactate is abnormal. |  |  |
| Renal Calculus / Stone Analysis |  | MICR | Eurofins |
| Retinol | See Vitamin A | WHIT in foil | St. James’s |
| Retinol Binding Protein |  | WHIT | Eurofins |
| Salivary Cortisol | Contact Endolab, 8675, for special tube (no. 5). | SALI | Wythenshawe |
| Selenium Level |  | WHIT | Public Analysts |
| Sirolimus | Dispatched Daily | FBC | Mater |
| Sulphonylurea | Note total urinary volume as a comment. | 24HU | Eurofins |
| TEP, Total Erythrocyte Porphyrins | Component Of Blood Porphyr Result – See Porphyrins Request |  |  |
| Thiopurine Methyltransferase | Only Stable For 10 Days. Haemoglobulin result must be included with this request | EDTA | Thomas’s |
| 6 Thioguanine Nucleotide | Only Stable For 10 Days. Haemoglobulin result must be included with this request | EDTA | Thomas’s |
| Thyroglobulin | Send One Aliquot And Keep Second Sample | WHIT | Newcastle |
| Thyroid Binding Globulin | Send To Laboratory For Immediate Processing | WHIT | Eurofins |
| Cortisol Binding Globulin | This Is Not TBG | ICEW | Charing Cross |
| Total T4 | On Endocrinology menu | WHIT | St. James’s |
| TSH Alpha Subunit |  | WHIT | UHB |
| **Urine Drugs of Abuse**  Amphetamine  Barbiturate  Benzodiazepine  Cannabinoids  Cocaine  Ethanol  Methadone  Opioids | Qualitative analysis only | MSU | Eurofins Biomnis |
| Urinary Free Cortisol | Must be refrigerated. Note the total urinary volume as a comment. | 24HU | Mater |
| Urine Citrate | Note the total urinary volume as a comment. Sample must be stored in the fridge. | 24HU | Eurofins |
| Urine Copper | Acid washed container required from the laboratory. Note the total urinary volume as a comment. | 24HU | Public Analysts |
| Urine Cortisol Metabolites |  | 24HU |  |
| Urine Cystine | Freeze if delay. Write ' ? Renal calculus' on form as details. Clinical information essential | MSU | Temple Street \*\* |
| Urine Lead | Note the total urinary volume as a comment. | 24HU | Public Analysts |
| Urine Mucopolysaccharide | Fresh Urine – Freeze Immediately | MSU | Willink |
| Urine Organic Acids | Fresh sample, freeze immediately. Clinical information essential | MSU | Temple Street \*\* |
| Urine Oxalate | Acidify the plain collection as per Eurofins protocol.  CN14015, June 2014  Acidify the 24-hour collection with 12N hydrochloric acid until the pH is between 2 and 3. Refrigerate | 24AU | Eurofins |
| Urine steroid profile/ profile | Sample can thaw in transit. Note the total urinary volume as a comment. | 24HU | Steroid Met |
| Vasoactive intest. Polypeptide. | 16Hr fast requiredeq. Send on ice, spin, separate and freeze immediately. | REDL | RVH |
| Very Long Chain Fatty Acids | Do Not Sent Haemolysed Samples | REDL | Willink |
| Vitamin A (Serum Retinol) | Sample Must Be Foil Wrapped. Order CRP also | WHIT in foil | St. James’s |
| Vitamin B1 (Thiamine) | Sample Must Be Foil Wrapped – Freeze Within 4 Hours | EDTA in fiol on ice | Eurofins |
| Vitamin B6 (Pyridoxine) | Sample Must Be Foil Wrapped – Freeze Within 4 Hours | EDTA in foil and on ice. | Biomnis |
| Vitamin E (Alphatocopherol) | Sample Must Be Foil Wrapped | WHIT in foil | St. James’s |
| White Cell Enzymes | Sample must reach the UK laboratory within 72hrs of draw. | REDL | Willink |
| Willink Dried Blood Spots | For fabry or pompe disease, special pack, in laboratory, kit no. 1 | N/A | Willink |
| Zinc - Red Cell |  | ORAN | Biomnis |
| Zinc Protoporphyrin |  | ORAN | Biomnis |
| Zinc, Serum |  | WHIT | Public Analysts |

Relevant clinical information must be included as an order comment with all requests.  
Requests that are not listed in the above table of externally referred tests must be discussed with a Chief or Senior in the laboratory prior to drawing bloods to ensure that the information regarding a suitable service provider, sample type required and any special conditions can be obtained.

Referral Laboratory Information

| **Laboratory** | **Laboratory Address** | **Contact Name & Number** |
| --- | --- | --- |
| ADDENB | Department of Clinical Biochemistry,  Box 232,  Addenbrooks Hospital, Cambridge, CB2 2QR, England | Dr. Peter Barker  Tel: + 44-1223217 157 |
| BIOUCLH | Dept Clinical Biochemistry,  University College London Hospitals  60, Whitfield Street,  London, W1T 4EU | Gill Rumsby  TEL: +44-20-34472955  FAX: +44-20-34479584 |
| BRISTOL | Department of Clinical Biochemistry  Cholinesterase Investigation Unit  Pathology Sciences Building  Southmead Hospital  Westbury-on-Trym  Bristol BS10 5NB | Ms. Roberta Goodall  TEL: 00-44-117 3236083  FAX: 00-44-117 959 1792 |
| CHARINGC | Medical Oncology Laboratory,  Ground Floor East Wing,  Charing Cross Hospital,  Fulham Palace Rd.  London W6 8RS. | Julia Jones –For CBG  Tel: +44-20 88461234  Richard Harvey – For CSF  0044-2088461415 or  0044-2088461417 |
| Eurofins | EurofinsLaboratories,  Sandyford ind. Estate,  Sandyford, Dublin 18 | Dr. Michael Louw  Tel 1800-252966 |
| COOMBE | Biochemistry Laboratory,  Coombe Hospital,  Coombe, Dublin 8 | Ruth O’Kelly  01-4085327 |
| ERVH | Endocrine Laboratory  Department of Biochemistry  Kelvin Building,  Royal Victoria Hospital, Belfast. BT 12 04 | 048-90634007, endo lab  048-90633798 for Biochemistry |
| EVELINA | Wellchild Laboratory,  Arctic (1ST FLOOR),  Evelina Children’s Hospital,  St. Thomas’s hospital,  Lambeth Palace Road,  London SE1 7EH | +44-20-71880159 |
| EXETER | Molecular Genetics / Medicine  School of Post Graduate Medicine & Health Sciences,  Barack Road,  Exeter, EX2 5AX, England | Dr. Sian Ellard  Tel: 0044 1392 402910 |
| FREEMAN | Clinical Biochemistry Dept.  Freeman Hospital,  Freeman Road,  Newcastle Upon Tyne,  NE 77 DN, England | DR. Bob Peaston  P 0044-191-2231577  F 0044-191-2331292 |
| GOSH | Camelia Botnar Laboratory,  Great Ormond St Hospital,  Great Ormond Street,  London WC1 N3JH | Ms Helen Aitkenhead  Tel: 0044-207-8138-8318 |
| GUYS | Cytogenetics Laboratory,  5th Floor, Tower Wing,  Guys Hospital,  Great Maze Pond,  London SE1 9RT | Dr Z Docherty  +44-2071881709 |
| HAREFIELD | The IMS laboratory &UK National Monitoring Service.  Harefield Hospital,  Hill End Road,  Harefield,  Middlesex UB9 6JH | 00-44-1895828570 |
| NEUROMETAB | Neurometabolic Laboratory  National Hospital for Neurology & Neurosurgery  Queen Square  London WC1N 3BG, England | Dr Simon Heales  Neurometabolic Unit Tel: 0044-20-34483844  Or Dr Ian Hargreaves +44-2034483844 |
| INST NEUR | NeuroImmunology & CSF Laboratory (NICL)  (Box 76) 9th Floor  UCL Queen Square Institute of Neurology  London WC1N 3BG  England | Dr V Worthington  CSF Oligoclonal IgG  Tel 0044-20-76762154 |
| KINGS | Kings College Hospital,  Toxicology Unit,  3rd Floor Bessemer Wing,  Denmark Hill,  London SE5 9RS | Bob Flanagan  T: 00-44-20-32995881  F; 00-44-20-32995888 |
| MANCHESTER | Liver Research Unit  Clinical Research Department  Manchester Royal Infirmary  Oxford Road  Manchester  M13 9WL, England | Dr Sandy Smith  Tel: 0044-161-2764179 |
| MATER | Pathology Department,  Mater Misercordiae Hosp.,  Eccles Street, Dublin 7 | Dr. Graham Lee 01-8032423  Duty Biochemist bleep 2164 through the switch, 01-803200 |
| MITOTANE | Hopital Cochin  27 Rue du Faubourg  Saint Jacques  Laboratoire Biologie Du Medicament et Toxico  75014 Paris  France | +33-1-58413316 |
| MULLINGAR | Biochemistry Department,  Midlands Regional Hospital  Mullingar  Co.Westmeath | Ms Helen Corrigan  (044) 934 0221 |
| DCMG | National Centre for Medical Genetics,  Our Lady’s Children’s Hospital,  Crumlin,  Dublin 12 | 01-4096733  [www.genetics.ie](http://www.genetics.ie/) |
| NEWCASTLE | Blood Sciences Reception  Level 3, Leazes Wing  Royal Victoria Infirmary  Queen Victoria Rd  Newcastle upon Tyne NE1 4LP | Tel: 0044 191 282 4559 |
| NGQS | Neurogenetics Laboratory,  6th Floor,  The National Hospital for Neurology &  Neurosurgery (NHNN),  Queen Square,  London WC1N 3BG, England |  |
| NOTTINGHAM | Mr Anthony Walker,  Haematology Dept.,  Red Cell Laboratory,  Queen’s Medical Centre,  Derby Road,  Nottingham, NG7 2UH | Mr Anthony Walker |
| PRSHEFFIELD | Dept Immunology,  Northern General Hosp.,  Herries Road,  Sheffield, S5 7AU, England. | Kevin Green  Tel.  0044-114 271 5707  Fax 0044-114 261 9721 |
| PUBLIC ANAL | Public Analyst's Laboratory  Sir Patrick Dun's  Lower Grand Canal Street  Dublin 2 | Dr. Ian Nesbitt  Tel: 01-6612022 |
| RVH | Regulatory Peptide Laboratory,  2nd floor, Kelvin Building,  Royal Victoria Hospital,  Belfast, BT 12 6BA | Dr J Ardill  Tel: 048-90263019 |
| SASL | SAS Laboratory,  Dept of Clinical Biochemistry  60 Whitfield Street,  London WIT 4EU,  England | Tel: 0044 845 155 5000, Ext 2956  Fax: 0044 207 380 9584 |
| SASN | SAS Laboratory  Department of Clinical Biochemistry  Royal Victoria Infirmary  Newcastle upon Tyne NE1 4LP | 00-44-191 2336161 ext 48889  (Freeman site)/29719 (RVI site) |
| SHEFFIELD | Department of Clinical Chemistry & Newborn Screening  Sheffield Children's NHS Trust  Western Bank  Sheffield  S10 2TH | Dr. J. R. Bonham  Tel: 0044-114-2717404 |
| SOUTH | Sarah Mapplebeck  Southend University Hospital,  Prittle Well Chase,  Westcliff on Sea,  Essex, FS0 0RY | Sarah Mapplebeck  Tel. 0044 1702435555, ext 6454 |
| STEROID MET | Professor of Medicine, Centre for Endocrinology, Diabetes and Metabolism (CEDAM)  School of Clinical & Experimental Medicine  University of Birmingham  Institute of Biomedical Research, Rm 225  Birmingham B15 2TT | Dr. Arlt Wiebke  [w.arlt@bham.ac.uk](mailto:w.arlt@bham.ac.uk)  or  Beverley Hughes |
| SURREY | Royal Surrey County & St Lukes Hospital,  Egerton Road,  Guilford,  Surrey. GU2 7XX | Dr Gwen Wark  Tel: 0044-1483-406715 |
| TEMPLE ST | Pathology Department,  Children’s University Hospital,  Temple Street,  Dublin 1 | Ms Deirdre Deverell,  Ms Anne O’Shea  Tel: 01-8784273 |
| THOMAS’S | The Purine Research Laboratory,  4th Floor  North Wing,  St. Thomas Hospital,  London SE1 7EH | Advice:  Tel: 0044-20-71881266  Results:  Tel: 0044-20-71888008 |
| UHB | Department of Clinical Biochemistry  Regional Endocrine Lab, University Hospital Birmingham,  NHS Foundation Trust, Birmingham, B29 6JD | Tel: 0044 1216271627 ext 52284  Fax: 0044 1214140078 |
| VINCENTS | Pathology Department,  St. Vincent's University Hospital  Elm Park  Dublin 4 | Dr Mark Kilbane  Tel: 01-2214513 |
| WILLINK | Willink Unit  Genetic Medicine  6th Floor  St. Mary's Hospital  Oxford Road  Manchester  M13 9WL | Heather Church  Karen Tylee  Tel: 0044-161-7012307  Long Chain Fatty Acids  Jackie Till  TEL: 0044-161 -7012140 |
| WYTHENSHAWE | Department of Clinical Biochemistry  Southmoor Road  Wythenshawe  Manchester  M23 9LT | Laura Owen  Tel. No.  00-44-161 291 2136 |