


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

| | | |
|--|---|---|
|  <p>UKAS MEDICAL</p> <p>8492</p> <p>Accredited to ISO 15189:2012</p> | <h3>Leeds Teaching Hospitals NHS Trust</h3> <p>Issue No: 003 Issue date: 21 November 2019</p> | |
| | <p>Specialist Laboratory Medicine St James's University Hospital Beckett Street Leeds LS9 7TF</p> | <p>Contact: Dr Carys Lippiatt Tel: +44 (0)1132 064852 E-Mail: carys.lippiatt@nhs.net Website: http://lthweb.leedsth.nhs.uk/sites/pathology</p> |
| <p>Testing performed by the Organisation at the locations specified below</p> | | |

Locations covered by the organisation and their relevant activities

Laboratory locations:

| Location details | Activity | Location code |
|--|-------------------|---------------|
| Address | Local contact | |
| Block 46 St James's University Hospital Beckett Street Leeds LS9 7TF | Dr Carys Lippiatt | SJUH 46 |
| Level 9 Gledhow Wing St James's University Hospital Beckett Street Leeds LS9 7TF | Chloe Chadwick | SJUH GW |
| Old Medical School Leeds General Infirmary Great George Street Leeds LS1 3EX | Chloe Chadwick | LGI |
| Clinical Sciences Building St James's University Hospital Beckett Street Leeds LS9 7TF | Chloe Chadwick | CSB |



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DETAIL OF ACCREDITATION

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---------------------------|---|---|---------------|
| HUMAN BODY FLUIDS | <u>Examination activities for the purpose of clinical diagnosis</u> | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| | <u>Coagulation/Haematology</u> | | |
| Blood | Routine coagulation: PT & INR, APTT, APTT Ratio Thrombin Time, Reptilase time, D-dimer. Derived Fibrinogen, Clauss Fibrinogen. Automated 50:50 Mix Reptilase time | ACL TOP 750 CTS - turbidimetric, chromogenic and latex enhanced immunoassay. ACL TOP 750 CTS routine operation SLF2SHC055 Investigation of prolonged thrombin time using reptilase SLF2SHC028 All tests using Hemosil Reagents except Reptilase time - PEFAKIT (Pentapharma) | SJUH 46 |
| Blood | Thrombophilia and Lupus anticoagulant: Protein C, Antithrombin, Free Protein S, Dilute Russel Viper Venom Test (DRVVT) Screen and Confirm, APTT-SP/ Actin FS | Thrombophilia and Antiphospholipid Antibody screening SLF2SHC025 All tests use Hemosil Reagents except Actin FS - Siemens Dade Reagent | SJUH 46 |
| Blood | Factor Assays Extrinsic: FII, FV, FVII, FX Intrinsic: FVIII, FVIII ReFacto, FIX, FXI, FXII, Chromogenic factor VIII | Factor Assays on the ACL TOP 750 CTS Specialist Coagulation SLF2SHC009 All deficient / calibration plasma are Hemosil Reagents except Pfizer Refacto AF Lab Standard used for calibration of Refacto factor VIII. Chromogenic factor VIII - Chromogenix | SJUH 46 |
| Blood | Von Willibrand Screen: Von Willibrand factor antigen, Von Willibrand ristocetin co factor (Automated), | Factor Assays on the ACL TOP 750 CTS Specialist Coagulation SLF2SHC009 Hemosil Reagents | SJUH 46 |



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| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| Blood | <u>Coagulation/Haematology</u> (cont'd) Anti Xa assays: Low molecular weight heparin (anti XA) Fondaparinux Rivaioxaban Danapariod Unfractionated Heparin Apixaban anti-Xa Edoxaban anti-Xa | Anti Xa assay to monitor Low Molecular Weight Heparin SLF2SHC035. Monitoring of Anti-Xa and Anti-Thrombin agents SLF2SHC060 All test using Hemosil reagents except Fondaparinux and Edoxaban anti-Xa – Stago reagents, and Danapariod - Hyphen Biomed reagents. Fondaparinux, Danapariod, Edoxaban – In-House methods | SJUH 46 |
| Blood | Direct Thrombin Inhibitors Agatroban, Dabigatran | Monitoring of Anti-Xa and Anti-Thrombin agents SLF2SHC060. Direct Thrombin Inhibitors and Dabigatran - Hemosil reagents. Agatroban - Hyphen Biomed, Agatroban - In House | SJUH 46 |
| Blood | Alpha 2 antiplasmin, Plasminogen | Factor Assays on the ACL TOP 750 CTS Specialist Coagulation SLF2SHC009 ACL TOP 750 CTS Routine Operation Hemosil Reagents: | SJUH 46 |
| Blood | Quantification of inhibitors to coagulation factors V, VII, VIII, IX | Bethesda Assay-using 37° C incubator/water bath and detection by ACL TOPs by Turbidimetric clot detection method. Reported in BU/ml | SJUH 46 |



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| Blood | <u>Coagulation/Haematology</u> (cont'd) Factor XIIIH.I.T screen | Spectrophotometer- Bio Tek UVICON XL Factor XIII Assay examination procedure SLF2SHC003 HIT-Ab PF4-H-SLF2SHC068- ACL TOP 750 CTS Factor XIII- Siemens Berichrom H.I.T screen- Hemosil PCR: Cepheid Genexpert Dx, dual channel analyser: | SJUH 46 |
| Blood/DNA extract | Factor 5 Leiden, Factor 2 gene mutation | GeneXpert Hemosil FII & FV cartridges performing real time PCR. Use of the GenExpert SLF2SHC070 | SJUH 46 |
| Blood | Platelet investigations: Ristocetin Cofactor Assay | Helena AggRAM Ristocetin Cofactor Assay SLF2SHC024 Helena Biosciences reagents | SJUH 46 |



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| Blood (Adult and Antenatal samples) | Haemoglobinopathy screening: | Documented -in-house methods to meet the requirements of the Sickle cell and Thalassaemia (SCT) screening programme screening programme(s) as defined in the July 2018 'NHS Sickle Cell and Thalassaemia Screening Programme: laboratory QA evidence requirements' | |
| Dried blood spots (Newborn) | Identification and quantification of Hb variants HbF, HbA, HbS, HbC, HbDPunjab, HbE, HbOArab plus HPFH, Delta/Beta Thalassaemia and compound heterozygotes of the above. | Primus ultra II - High performance liquid chromatography (HPLC) - Haemoglobin peak analysis and quantitation. Operation of the Primus Ultra II HPLC System SLF2SHE006 | SJUH 46 |
| Dried blood spots (newborn) and adult confirmation | Identification and quantification of Hb variants - HbF, HbA, HbS, HbC, HbDPunjab, HbE, HbOArab plus HPFH, Delta/Beta Thalassaemia and compound heterozygotes of the above. | TMS identification of Hb variants (S, C, D punjab, E and O arab) by electron spray mass spectrometry - using the SpotOn HbS TMS kit Spot-On Haemaglobinopathy screening kit for MSMS SLF2SHE022 | SJUH 46 |
| Blood | HbS (screen) | Manual kit insolubility - HD Supplies kit Solubility Test to demonstrate HbS (S Test) SLF2SHE012 | SJUH 46 |



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| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| Blood | <u>Antenatal & Newborn Screening</u> Antenatal screening for Down's, Edwards and Patau: Alpha Feto Protein (AFP), free β -Human Chorionic Gonadotrophin (β -HCG), plasma free Oestriol (UE3) and pregnancy associated plasma protein A (PAPP-A), Inhibin A and Total HCG (Second Trimester Downs Screening) | Documented -in-house methods to meet the requirements of the Fetal Anomaly Screening Programme as defined in the July 2018 'NHS Fetal Anomaly Screening Programme: laboratory QA evidence requirements' Autodelfia 1235 AutoDELFIA UE3 - solid phase competitive fluoroimmuno assay, AutoDELFIA PAPP-A, AFP, free beta HCG & Inhibin A - solid phase, two site fluoroimmunometric assays direct sandwich technique Downs screening SLF2BGN009 AutoDELFIA, Use of SLF2BGN022 | SJUH 46 |



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| | <u>Antenatal & Newborn Screening</u> (cont'd) | Documented -in-house methods to meet the requirements of the Newborn Blood Spot Screening Programme as defined in the July 2018 'NHS Newborn Blood Spot Screening Programme: laboratory QA evidence requirements' | |
| Bloodspot | Newborn screening for Cystic Fibrosis: Immunoreactive trypsinogen (IRT) | Autodelfia 1235 Delfia neonatal IRT (Immuno Reactive Trypsin) kit fluoroimmunometric assay. AutoDELFLIA, Use of SLF2BGN022 Screening for Cystic Fibrosis SLF2BGN001 | SJUH 46 |
| Bloodspot | Newborn Screening for Hypothyroidism and Hypothyroidism in Downs patients: Thyroid stimulating hormone (hTSH) | Autodelfia 1235 AutoDELFLIA neonatal hTSH (human Thyroid Stimulating Hormone) kit fluoroimmunometric assay. AutoDELFLIA, Use of SLF2BGN022 Screening for Hypothyroidism Neonatal TSH SLF2BGN002 | SJUH 46 |



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| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| Bloodspot | <u>Antenatal & Newborn Screening</u> (cont'd) Newborn screening for Glutaric Aciduria Type 1 (GA1), Homocystinuria (pyridoxine non-responsive) (HCU), Isovaleric Acidaemia (IVA), Maple Syrup Urine Disease (MSUD), Medium Chain Acyl-CoA Dehydrogenase Deficiency (MCADD), Phenylketonuria (PKU) & Tyrosinaemia Type 1. Analytes tested: Tyrosine - (PKU/Tyrosinaemia Type I) Methionine - HCU Glutaryl carnitine (C5-DC) - GA1 Isovalerylcarnitine (C5) - IVA Octanoylcarnitine (C8) - MCADD Decanoylcarnitine (C10) - MCADD Phenylalanine - PKU Leucine - MSUD | Documented -in-house methods to meet the requirements of the Newborn Blood Spot Screening Programme as defined in the July 2018 'NHS Newborn Blood Spot Screening Programme: laboratory QA evidence requirements' Tandem mass spectrometry. Underivatized samples, electrospray ionisation (ESI), MRM analysis using: - Waters Premier XE - API 4000 Use of API4000 SLF2BGN025 Waters Premier Tandem, Use of SLF2BGN012 SLF2BGN030 - Tandem tests | SJUH 46 |



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| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| Sweat | <u>Antenatal & Newborn Screening</u> (cont'd) Sweat test for Cystic Fibrosis: Chloride concentration | Wescor sweat inducer model 3700 - pilocarpine iontophoresis stimulation. Macroduct sweat collector. Sherwood chloride analyser 926. Sweat testing, collection and analysis procedure SLF2BGN020 | SJUH 46 |
| Plasma/serum, urine, CSF | <u>Biochemical Genetics</u> Amino acid analysis: Quantitative amino acid analysis | Biochrom 30+ analysers -ion exchange chromatography to separate amino acids with visualisation at 570 nm and 440nm. Use of Biochrom amino acid analysers, SLF2BGM012 | SJUH 46 |
| Urine | Qualitative amino acid analysis | 2-directional thin layer chromatography (TLC) with visual assessment of stained plates Urine Amino Acid Analysis by 2D TLC SLF2BGM007 Agilent 6890 gas chromatograph with 5973 mass selective detector and/or Agilent 6890N gas chromatograph with 5975B mass selective detector. Use of Agilent 5973 & 5975B Gas Chromatographs with Mass Selective Detectors (GCMS) SLF2BGM033 | SJUH 46 |



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| | <u>Biochemical Genetics</u> (cont'd) | | |
| Urine | Organic acid analysis - qualitative | Urine organic acids by GCMS SLF2BGM003 | SJUH 46 |
| Urine | Quantitation of HMMA and HVA | HVA and HMMA by GCMS SLF2BGM002 | SJUH 46 |
| Urine | Quantitation of Orotic acid | Orotic acid by GCMS SLF2BGM004 | SJUH 46 |
| | | Waters Premier XE Tandem Mass Spectrometer and/or SCIEX API 4000. Waters Premier Tandem, Use of SLF2BGN012. API 4000, Use of SLF2BGN025 | |
| Bloodspot | Dietary monitoring: Phenylalanine Tyrosine | LC-MS/MS (MRM analysis - in-house method) Diet monitoring SLF2BGM010 | SJUH 46 |
| Bloodspot | Acylcarnitine analysis | LC/MS/MS (parent ion scan - in-house method) Acylcarnitines SLF2BGN010 | SJUH 46 |
| Plasma, Urine | Creatine metabolites: Creatine | LC-MS/MS (MRM analysis - in-house method) | SJUH 46 |
| Urine | Guanidinoacetic acid (GAA) Creatinine | Creatine and GAA by LCMSMS SLF2BGM037 | |
| Blood | White cell cystine, (TMS) | LC-MS/MS (MRM analysis - in-house method) White cell cystine, stage 2, Cystine analysis by TMS. SLF2BGM018 | SJUH 46 |
| Blood | White cell cystine (protein assay) | Cobas Mira S: Modified Lowry protein assay measuring absorbance at 600nm. White cell cystine protein assay SLF2BGM025 | SJUH 46 |



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| Plasma | <u>Biochemical Genetics</u> (cont'd) Total homocysteine | Axis Shield 2-step enzyme assay, measurement of NADH conversion to NAD+ at 340nm. Total plasma homocysteine SLF2BGM011 | SJUH 46 |
| Urine | Mono- and disaccharide sugars | Thin layer chromatography with visual assessment of stained plates: Sugar Thin Layer Chromatography - in-house method SLF2BGM005 | SJUH 46 |
| Urine | Oligosaccharides | Oligosaccharides by Thin Layer Chromatography (in-house method) SLF2BGM006 | SJUH 46 |
| Urine | Sialic acids | Sialic Acids by Thin Layer Chromatography (in-house method) SLF2BGM022 | SJUH 46 |
| Urine | Mucopolysaccharides | Precipitation, extraction and 1D-electrophoresis with visual assessment of plates (in-house method) Mucopolysaccharides SLF2BGM008 | SJUH 46 |
| Urine | Glucose, ketones, pH, protein, blood, nitrites and leucocytes | Bayer Multisix8 SG. Siemens Clinitek Status Urine Dipstick Reader. Multistix tests in urine SLF2BGM013 | SJUH 46 |



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| | <u>Biochemical Genetics</u> (cont'd) | | |
| Serum | Biotinidase | Manual enzyme assay. Biochrom Photometer, Lightwave II spectrophotometric absorbance at 546nm. (In-house method) Biotinidase SLF2BGM009 | SJUH 46 |
| Blood | Galactosaemia screen: Galactose-1-Phosphate Uridyl Transferase (Gal-1-PUT) | Manual spot test with visual assessment of fluorescence under long wavelength ultra violet light. Galactosaemia screening test (in-house method) SLF2BGM001 | SJUH 46 |
| | <u>Metabolics</u> | | |
| Urine | Oxalate quantification | Trinity Biotech Oxalate Kit. Enzymatic Oxidation of urine Oxalate converted into Indamine dye measured by Spectrophotometry | SJUH 46 |
| Urine | Total Metanephrines | MDS Sciex/Applied Biosystems MS/MS API 5000 Shimadzu Prominence HPLC System Acidic hydrolysis and HPLC separation prior to ionisation and quantitation on TMS. Analysis of Total Urine Metanephrines by LC MS MS (in-house method) SLF2MTT024 | SJUH 46 |
| Plasma, Urine | 5-hydroxyindole acetic acid (5-HIAA) | Shimadzu Prominence HPLC system. Separation by HPLC with detection by native fluorescence (in-house method) 5-HIAA in plasma by HPLC SLF2MTT006 Determination of 5-HIAA in urine (in-house method) SLF2MTT005 | SJUH 46 |



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| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| Urine | <u>Metabolics</u> Dopamine | MDS Sciex/Applied Biosystems MS/MS API 5000 or API 4000 Shimadzu Prominence HPLC System. Extracted using ion-exchange chromatography. Measurement by LC-MS/MS (in-house method). Analysis of Urine Dopamine (in-house method) SLF2SBT003 | SJUH 46 |
| Blood | Platelet Serotonin | Shimadzu Prominence HPLC system: Isolation using cationic exchange resin and acid elution. Detection and quantification by native fluorescence (in-house method). Determination of Platelet Serotonin SLF2MTT004 | SJUH 46 |
| Faeces | Pancreatic elastase | Tecan Sunrise plate reader. Schebo Biotech monoclonal antibody against human pancreatic elastase ELISA technique with photometric measurement of colour change Pancreatic elastase in faeces, semi-automated method SLF2MTT047 | SJUH 46 |



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| Urine | <u>Metabolics</u> (cont'd) Porphobilinogen | Hitachi U-2001 spectrophotometer and Biorad PBG by column test. Isolation by anion exchange chromatography; quantified following application of Ehrlich's reagent by photometric measurement at 553 nm. Determination of PBG in urine SLF2MTT002 | SJUH 46 |



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| Blood | <u>Metabolics</u> (cont'd) Vitamins A and E | Hewlett Packard® (now, Agilent®) HP1100 modular HPLC. Alcohol precipitation and hexane extraction. Separation by reversed-phase isocratic HPLC. Quantified via UV/visible absorbance detection. Cotignami & Bieri technique Measurement of Vitamins A and E by HPLC (in-house method) SLF2MTT035 | SJUH 46 |
| Urine | Urine Drugs of Abuse 6-monoacetylmorphine, morphine, codeine, dihydrocodeine, amphetamine, 11-nor-9-carboxy-delta-9-tetrahydrocannabinol, nordiazepam, oxazepam, benzoylcegonine, methadone, EDDP, buprenorphine, norbuprenorphine, amphetamine, MDMA, MDA. Ketamine, norketamine, tramadol, Pholcodine and Oxycodone | Applied Biosystems / Sciex API 5000 mass spectrometer Shimadzu Prominence HPLC system Glucuronidase hydrolysis and solvent extraction. LC-MS/MS analysis. 13 drugs with quantitative or qualitative reporting. Quantitative measurements by comparison to 5 calibrators. Qualitative measurements by comparing retention times and MRM ion ratios with spiked urine Urine Drugs of Abuse using the API 5000 (in-house method) SLF2MTT011 | SJUH 46 |



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| Urine and Oral fluids | <u>Toxicology</u> Pregabalin and gabapentin | MDS Sciex/Applied Biosystems MS/MS API 5000 Shimadzu Prominence HPLC System Extraction by commercial ion-exchange column. Analysis by LC-MS/MS. Quantitative measurements by comparison to 5 calibrators. Reported qualitatively with respect to cutoff. Gabapentin and pregabalin in oral fluid and urine by LCMSMS (in-house method) SLF2MTT020 | SJUH 46 |
| Blood | Copper, zinc and selenium | Agilent 7700 ICPMS (collision cell) with ASX-500 autosampler: Following dilution in a basic solution Copper zinc and selenium in plasma (in-house method) SLF2MTT018 | SJUH 46 |
| | Lead | Following dilution in an ammonia solution via measurement of Isotopes 206,207 & 208 atomic mass units Analysis of Blood Lead by ICPMS (in-house method) SLF2MTT019 | SJUH 46 |



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| Blood | <u>Toxicology</u> (cont'd) Mercury (Hg) | Following dilution in an ammonia solution via measurement of isotopes 200 & 202 atomic mass units Analysis of Blood Mercury Hg by ICPMS (in-house method) SLF2MTT014 | SJUH 46 |
| | Chromium, Cobalt and Manganese | Following dilution in an ammonia solution Analysis of Blood and Plasma Chromium, Cobalt and Manganese by ICPMS (in-house method) SLF2MTT015 | SJUH 46 |
| | Zinc protoporphyrin | Helena Protofluor-Z haematofluorometer (ZPP in 415nm light beam excited and emits light at 595nm, detected by photomultiplier tube). Zinc protoporphyrin using Helena Protofluor Z haematofluorometer SLF2MTT034 | SJUH 46 |
| | <u>Trace elements</u> | | |
| Urine | Cadmium (Cd) | Agilent 7700 ICPMS with ASX-500 autosampler: Via measurement of Isotopes 114 & 112 atomic mass units Analysis of Urine Cadmium (Cd) by ICPMS (in-house method) SLF2MTT030 | SJUH 46 |



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|--|--|--|---------------|
| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| | <u>Trace elements</u> (cont'd) | | |
| Plasma / Tap water (pre-reverse osmosis and post-reverse osmosis) / dialysis fluid | Aluminium (Al) | Plasma aluminium by ICPMS (in-house method) SLF2MTT022 Analysis of water and dialysate aluminium (Al) by ICPMS (in-house method) SLF2MTT021 | SJUH 46 |
| Liver needle biopsy or tissue block | Tissue Copper (Cu) and Iron (Fe) | Nitric acid digestion. Analysis of Tissue Copper Cu and Iron Fe by ICPMS (in-house method) SLF2MTT027 | SJUH 46 |
| Urine | Copper (Cu), Lead (Pb) and Mercury (Hg) | Cu measured by collision cell. Pb & Hg measured in non-collision mode (in-house methods) SLF2MTT031 Analysis of Urine Copper (Cu), Zinc (Zn), Lead (Pb) and Mercury (Hg) by ICP | SJUH 46 |
| Blood | Arsenic | Following dilution in an ammonia solution SLF2MTT016 Arsenic in blood | SJUH 46 |
| Urine | Arsenic | Following dilution in hydrochloric acid Arsenic in urine (in-house method) SLF2MTT033 | SJUH 46 |
| Blood | Cadmium (Cd) | Following dilution in an ammonia solution via measurement of Isotopes 111, 112 & 114 atomic mass units Analysis of Blood Cadmium Cd by ICPMS (in-house method) SLF2MTT017 | SJUH 46 |



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|----------------------------|---|--|---------------|
| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| Blood | <u>Immunosuppressant drug monitoring</u> Immunosuppressant drug monitoring Tacrolimus, Ciclosporin, Sirolimus | ABSciex API 4000 tandem mass spectrometer Shimadzu Prominence 20A HPLC system Immunosuppressant Monitoring Using the API4000 Ascomycin Internal Standard, (in-house method) Ref SLF2SBT001 | SJUH 46 |
| Heparinized plasma/Serum | <u>Endocrinology</u> Dihydroepiandrosterone Sulphate (DHAS) | Radioimmunoassay: Packard TriCarb 2100TR LSC linked to counting room PC and Multicalc data processing software. Direct RIA using an antiserum raised against a DHA-3_hemisuccinyl conjugate and a tritium labelled DHA. DHAS in plasma by RIA (in-house method) SLF2END032 Tricarb liquid scintillation counter SLF2END015 | SJUH 46 |



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|----------------------------|--|---|---------------|
| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | SJUH 46 |
| | <u>Endocrinology</u> (cont'd) | Radioimmunoassay: | |
| Heparinized plasma/Serum | Low level Oestradiol | Wallac 'Wizard' gamma counter on-line to Multicalc data processing software. Extraction into diethyl ether. RIA using an antiserum raised against oestradiol-6-BSA conjugate and radioactively labelled oestradiol iodinated at C6 Low level Oestradiol in plasma (in-house method) SLF2END033 Wallac Wizard gamma counter - use of SLF2END016 | |



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|----------------------------|--|---|---------------|
| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| | <u>Endocrinology</u> (cont'd) | | |
| Heparinized plasma/Serum | Androstenedione | LC-MS/MS API5000 LC-MS/MS tandem mass spectrometer: Extraction into tert-butyl-methyl ether (MTBE). Deuteriated internal standard. Electrospray ionisation with multiple reaction monitoring (MRM) mode; detection of 2 precursor (parent) to fragment (daughter) ion transitions Determination of Androstenedione in plasma by Tandem Mass Spectrometry (in-house method) SLF2END012 API5000 setting up to run routine endocrinology methods SLF2END029 | SJUH 46 |
| Heparinized plasma/Serum | Testosterone | Precipitation of protein using zinc sulphate/methanol. Electrospray ionisation with multiple reaction monitoring (MRM) mode; Deuteriated internal standard Detection of 2 precursor (parent) to fragment (daughter) ion transitions Testosterone by TMS (in-house method) SLF2END013 | SJUH 46 |
| Heparinized plasma/Serum | Dihydrotestosterone (DHT) | Dihydrotestosterone by LC-MS/MS tandem mass spectrometer API5000 Sciex SLF2END061 | SJUH 46 |



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|----------------------------|--|--|---------------|
| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| Urine | <u>Endocrinology</u> (cont'd) Urinary free cortisol | LC-MS/MS API5000 LC-MS/MS tandem mass spectrometer: Extraction into dichloromethane. Deuteriated internal standard. Electrospray ionisation with multiple reaction monitoring (MRM) mode Detection of 2 precursor (parent) to fragment (daughter) ion transitions Urinary free cortisol by Tandem Mass Spectroscopy (in-house method) SLF2END011 | SJUH 46 |
| Heparinized plasma/Serum | Vitamin D | Precipitation of protein using zinc sulphate/methanol. Deuteriated 25OH D3 internal standard. Atmospheric pressure chemical ionisation (APCI). Multiple reaction monitoring (MRM) mode detecting 2 precursor (parent) to fragment (daughter) ion transitions. Vitamin D on TMS (in-house method) SLF2END014 | SJUH 46 |



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|----------------------------|--|--|---------------|
| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| | <u>Endocrinology</u> (cont'd) | LC-MS/MS API5000 LC-MS/MS tandem mass spectrometer: | |
| Plasma | Plasma renin activity (PRA) | Generation of Angiotensin I from angiotensinogen which is proportional to plasma renin activity. Angiotensin I is extracted using SPE. Deuteriated internal standard. Electrospray ionisation with multiple reaction monitoring (MRM) mode and detection of 2 precursor (parent) to fragment (daughter) ion transitions. Plasma renin activity by Tandem Mass Spectroscopy (in-house method) SLF2END060 | SJUH 46 |
| Heparinized plasma/Serum | 17 alpha OH progesterone | Extraction into tert-butyl-methyl ether (MTBE)/ Precipitation of protein using zinc sulphate/methanol. Deuteriated internal standard. Electrospray ionisation with multiple reaction monitoring (MRM) mode; detection of 2 precursor (parent) to fragment (daughter) ion transitions, 17 alpha OH progesterone by Tandem Mass Spectroscopy (in-house method) SLF2END057 | SJUH 46 |



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| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|----------------------------|---|--|---------------|
| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| | <u>Endocrinology</u> (cont'd) | LC-MS/MS API5000 LC-MS/MS tandem mass spectrometer: | |
| | Aldosterone | Extraction into tert-butyl-methyl ether (MTBE). Deuteriated internal standard. Atmospheric pressure chemical ionisation (APCI). Multiple reaction monitoring (MRM) mode detecting 2 precursor (parent) to fragment (daughter) ion transitions. Aldosterone by Tandem Mass Spectroscopy (in-house method) SLF2END059 | SJUH 46 |
| Serum | <u>Clinical Immunology</u> Autoantibody identification: Antinuclear Antibodies Anti-CCP Ab Anti-tTG Ab Anti-Phospholipid Ab Anti-GBM Ab Anti-PR3 Ab Anti-MPO Ab | Bio-Rad Bioplex 2200 – multiplex magnetic bead technology (Luminex) SLF2IMCL045 | LGI |
| Serum | Rheumatoid Factor | Siemens BNII – nephelometry Protein and highly specific anti-protein antibodies, formation of the insoluble antigen-antibody complex is measured by fixed time kinetic nephelometry | LGI |



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| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|----------------------------|--|---|---------------|
| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| Faeces | <u>Clinical Immunology</u> (cont'd) Faecal haemoglobin | Faecal haemoglobin detection (for screening purposes) by Faecal immunochemical test (FIT); turbidometry using the HM-JACKArc analyser alpha laboratories SLF2IMCL071 | LGI |
| Blood | Infliximab | Detection of Infliximab drug level anti-Infliximab antibodies by ELISA using Dynex DS2 SLF2IMCL070 | LGI |
| Serum | ANA (Hep2) Antineutrophil Cytoplasmic Ab Autoimmune Liver Disease Ab Pancreatic Islet Cell Ab Bullous Abs Steroidal Cell Ab Cerebellar Ab Striated Muscle Ab Crithidia Ab Endomysial Ab | Werfen Quantalyser slide processor & Leica DMRB Fluorescence microscope – Indirect Immunofluorescence SLF2IMCL068 | LGI |
| Serum | Anti-GAD Ab | Alere/Dynex DS2 analyser ELISA plate reader for manual assays and processing of automated ELISAs SLF2IMCL044 | LGI |
| Serum | Myositis associated Ab Scleroderma Ab Autoimmune Liver Disease Ab Neuronal Ab ANA Ab | EUROLineScan flatbed scanner Immunoblotting (commercial kit) Strips coated with highly purified antigens are incubated with samples. Bound antibodies detected with enzyme-labelled anti-human IgG conjugate. Evaluation is performed digitally. SLF2IMCL058 | LGI |



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|----------------------------|---|---|---------------|
| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufactures' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| Serum | <u>Clinical Immunology</u> (cont'd) Function antibodies (specific microbial protein antibodies) (Includes Anti-Haemophilus influenzae type B antibodies (HiB), Anti-tetanus toxoid antibodies (TET) and Anti-Pneumococcal antibodies (PCP) | Alere/Dynex DS2 automated ELISA analyser Binding site kits SLF2IMCL001 | LGI |
| Serum | IgG anti Psuedomonas | Alere Dynex DS2 ELISA plate reader Oxford Biosystems SLF2IMCL016 | LGI |



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|----------------------------|---|--|---------------|
| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| | <u>Proteins:</u> | | |
| Serum | Qualitative analysis of serum proteins to identify presence of abnormal protein and protein group increase/decrease. Quantitation of paraproteins | Sebia CapillaryS2 – CZE Sebia Hydrasys – Gel electrophoresis Helena IEF | LGI |
| Fluid | β 2- transferrin | Sebia Hydrasys Detection of Beta-2 transferrin SLF2IMCL052 | LGI |
| Serum | Cryoglobulins | Sample cooling/heating from/up to 37C with visual inspection of the aliquot for cryoprecipitate. Typing of positives on Sebia Hydrasys SLF2IMCL029 Investigation of cryoglobulins | LGI |
| Urine | Qualitative analysis of Urine proteins to identify presence of abnormal protein and protein group increase/decrease. Quantitation of paraproteins | Sebia Hydrasys High resolution urine electrophoresis using the Sebia Hydrasys system SLF2IMCL010 | LGI |
| CSF | Oligoclonal bands | Helena Titan Gel IEF chamber 4065 Isoelectric focussing of CSF IgG SLF2IMCL018 | LGI |
| Serum and Urine | Paraprotein identification: IgG/IgA/IgM/Kappa/Lambda/IgD/IgE/ free Kappa light chains/free Lambda light chains | Sebia Hydrasys Serum and urine immunofixation (Hydrasys) SLF2IMCL013 | LGI |



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|----------------------------|---|--|---------------|
| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| Serum | <u>Proteins:</u> (cont'd) Alpha-1 anti-trypsin phenotype | Sebia Hydrasys (Hydrasys) SLF2IMCL061 | LGI |
| Serum | Specific Proteins: α1-antitrypsin α1-acid glycoprotein anti-Streptolysin O β2-microglobulin Caeruloplasmin C1 esterase inhibitor Complement (C3, C4) Haptoglobin Immunoglobulins (GAM) IgG subclasses Serum free light chains Transferrin CSF IgG CSF Alb | Siemens BN*II System Nephelometers Operation of the nephelometer - Siemens BNII system SLF2IMCL017 | LGI |
| CSF CSF | | | |
| Serum | Total Haemolytic Complement (CH100 - classical pathway) | Total Haemolytic complement functional assay - classical pathway (radial immunodiffusion) SLF2IMCL005 | LGI |
| Serum | C1 esterase inhibitor (functional) | Manual chromogenic assay C1-Esterase Inhibitor functional assay SLF2IMCL031 | LGI |
| Serum | Allergy: Total IgE Tryptase Specific IgE See APPENDIX 1 | Phadia 250 - EIA Operation of the Phadia250 SLF2IMCL038 | LGI |



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|----------------------------|---|--|---------------|
| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| | <u>Cellular Immunology</u> | | |
| Blood | Primary Immune Deficiency: Lymphocyte function /anti CD3 assay. Functional activation of lymphocytes in response to stimulation with ant-CD3 Ab (counts per minute) | Wallac LKB Beta counter Cell harvester: Skatron AS semi-automated cell harvester Lymphocyte function test SLF2IMCE009 | SJUH GW |
| Blood | Functional Neutrophil assay: Respiratory burst of neutrophils in response to <i>E coli</i> or PMA | FACSCalibur (Becton Dickinson) Flow Cytometer Neutrophil function test SLF2IMCE021 | SJUH GW |
| Blood | Lymphocyte subsets: Extended phenotyping (HLA-DR on B cells and monocytes, T cell receptor expression, naïve T cells and HLA-DR +ve T cells) B cell panel: Measurement of memory B cells | Facscalibur Flow cytometer Lymphocyte subsets on flow cytometer SLF2IMCE012 Extended immune cell phenotyping SLF2IMCE023 B Cell Phenotyping SLF2IMCE019 | SJUH GW |
| Blood | CD34 | Becton Dickinson Anti-human CD34 Flow cytometry using BD Facscanto | SJUH GW |
| Blood and Tissue | HLA typing | HLA typing by rt-PCR using LinkSeq linkage Biosciences typing kit and Quantstudio DX real-time PCR instrument as per SLF2IMTM038 | SJUH GW |



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|--|--|---|---------------|
| HUMAN BODY FLUIDS (cont'd) | <u>Examination activities for the purpose of clinical diagnosis</u> (cont'd) | In-house documented procedures incorporating manufacturers' instructions where relevant. Using Suppliers methods except where stated as In-House | |
| Blood/lymph node/spleen | Crossmatching | Diavert Leitz Inverted fluorescent microscope Flovert FS Lietz BD FACSCalibur Flow cytometer B and T cell allo and auto crossmatch SLF2IMTS020 Flow cytometric crossmatchSLF2IMCE020 | SJUH GW |
| Previous donor/patient typing and antibody results using the methods above | Virtual Crossmatch | Review of data according to SLE11MT003 Virtual Crossmatch Transplant and SLF2IMTA007 Compiling the Virtual Crossmatch list | SJUH GW |

END



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APPENDIX 1

| Phadia Specific IgE | |
|---------------------|------------------|
| Code | Item Description |
| ImmunoCAPS | |
| Foods | |
| f1 | Egg white |
| f2 | Milk |
| f3 | Cod |
| f4 | Wheat |
| f5 | Rye |
| f6 | Barley |
| f7 | Oat |
| f8 | Maize |
| f9 | Rice |
| f10 | Sesame |
| f11 | Buckwheat |
| f12 | Pea |
| f13 | Peanut |
| f14 | Soya |
| f15 | White Bean |
| f17 | Hazel Nut |
| f18 | Brazil Nut |
| f20 | Almond |
| f23 | Crab |
| f24 | Shrimp |
| f25 | Tomato |
| f26 | Pork |
| f27 | Beef |
| f31 | Carrot |
| f33 | Orange |
| f35 | Potato |
| f36 | Coconut |
| f37 | Blue Mussel |
| f40 | Tuna |
| f41 | Salmon |
| f42 | Haddock |
| f44 | Strawberry |
| f45 | Yeast |



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| | |
|------|----------------------------------|
| f47 | Garlic |
| f48 | Onion |
| f49 | Apple |
| f50 | Chub Mackerel |
| f51 | Bamboo Shoot |
| f54 | Sweet potato |
| f55 | Common millet |
| f56 | Foxtail millet |
| f57 | Japanese millet |
| f58 | Pacific squid |
| f59 | Octopus |
| f60 | Jack mackerel, Scad |
| f61 | Sardine, Japanese Pilchard |
| f75 | Egg Yolk |
| f76 | nBos d4 alpha-lactalbumin, Milk |
| f77 | nBos d5 beta-lactoglobulin, Milk |
| f79 | Gluten |
| f80 | Lobster |
| f81 | Cheese (cheddar type) |
| f82 | Cheese (mould type) |
| f83 | Chicken |
| f84 | Kiwi fruit |
| f85 | Celery |
| f86 | Parsley |
| f87 | Melon |
| f88 | Mutton |
| f89 | Mustard |
| f90 | Malt |
| f91 | Mango |
| f92 | Banana |
| f93 | Cacao |
| f94 | Pear |
| f95 | Peach |
| f96 | Avocado |
| f98 | Gliadin |
| f124 | Spelt Wheat |
| f147 | Gulf flounder |
| f182 | Lima bean |
| f201 | Pecan nut |



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| | |
|------|------------------------|
| f202 | Cashew nut |
| f203 | Pistachio nut |
| f204 | Trout |
| f205 | Herring |
| f206 | Mackerel |
| f207 | Clam |
| f208 | Lemon |
| f209 | Grapefruit |
| f210 | Pineapple |
| f211 | Blackberry |
| f212 | Mushroom |
| f213 | Rabbit |
| f214 | Spinack |
| f215 | Lettuce |
| f216 | Cabbage |
| f217 | Brussel Sprout |
| f218 | Paprika |
| f219 | Fennel |
| f221 | Coffee |
| f222 | Tea |
| f224 | Poppy seed |
| f225 | Pumpkin |
| f226 | Pumpkin seed |
| f227 | Sugar-beet seed |
| f231 | Boiled milk |
| f232 | nGal d2 Ovalbumin, Egg |
| f233 | nGal d1 Ovomuroid, Egg |
| f234 | Vanilla |
| f235 | Lentil |
| f236 | Cow's whey |
| f237 | Apricot |
| f242 | Cherry |
| f244 | Cucumber |
| f245 | Egg |
| f246 | Guar, guar gum (E412) |
| f247 | Honey |
| f253 | Pine nut, pignoles |
| f254 | Plaice |
| f255 | Plum |



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| | |
|------|-----------------|
| f256 | Walnut |
| f258 | Squid |
| f259 | Grape |
| f260 | Broccoli |
| f261 | Asparagus |
| f262 | Aubergine |
| f263 | Green pepper |
| f264 | Eel |
| f265 | Caraway |
| f266 | Mace |
| f267 | Cardamom |
| f268 | Clove |
| f269 | Basil |
| f270 | Ginger |
| f271 | Anise |
| f272 | Tarragon |
| f273 | Thyme |
| f274 | Marjoram |
| f275 | Lovage |
| f276 | Fennel, Fresh |
| f277 | Dill |
| f278 | Bay Leaf |
| f279 | Chilli pepper |
| f280 | Black pepper |
| f281 | Curry |
| f283 | Oregano |
| f284 | Turkey meat |
| f285 | Elk/moose meat |
| f286 | Mare's milk |
| f287 | Red kidney bean |
| f288 | Blueberry |
| f289 | Date |
| f290 | Oyster |
| f291 | Cauliflower |
| f292 | Guava |
| f293 | Papaya |
| f294 | Passion fruit |
| f295 | Carambola |
| f296 | Carob (E410) |



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| | |
|------|--------------------------|
| f297 | Gum arabic (E414) |
| f298 | Tragacanth (E413) |
| f299 | Sweet chestnut |
| f300 | Goat milk |
| f301 | Persimon |
| f302 | Mandarin |
| f303 | Halibut |
| f304 | Langust (spiny lobster) |
| f305 | Fenugreek |
| f306 | Lime |
| f307 | Hake |
| f308 | Sardine |
| f309 | Chickpea |
| f310 | Blue vetch |
| f311 | Megrim |
| f312 | Sword fish |
| f313 | Anchovy |
| f314 | Snail |
| f315 | Green bean |
| f316 | Rape seed |
| f317 | Corriander |
| f318 | Jack fruit |
| f319 | Beetroot |
| f320 | Crayfish |
| f321 | Horse meat |
| f322 | Red Currant |
| f323 | nGal d3 Conalbumin |
| f324 | Hop |
| f325 | Sheep milk |
| f326 | Sheep whey |
| f328 | fig |
| f329 | Watermelon |
| f330 | Rose Hip |
| f331 | Saffron |
| f332 | Mint |
| f333 | Linseed |
| f334 | nBos d Lactoferrin, Milk |
| f335 | Lupin seed |
| f336 | Jujube |



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| | |
|------|--|
| f337 | Sole |
| f338 | Scallop |
| f339 | Allspice |
| f340 | Cochineal extract |
| f342 | Olive |
| f343 | Raspberry |
| f344 | Sage |
| f345 | Macadamia nut |
| f346 | Abalone |
| f347 | Quinoa |
| f348 | Litchi |
| f351 | rPen a1 Tropomyosin, Shrimp |
| f352 | rAra h8 peanut comp |
| f353 | rGly m4 PR-10, Soy |
| f354 | rBer e1 Brazil nut |
| f355 | rCyp c1 Carp |
| f369 | Cat Fish |
| f381 | Red snapper |
| f384 | Whitefish (Inconnu) |
| f410 | Grouper |
| f412 | Orange roughly |
| f413 | Pollock |
| f414 | Tilapia |
| f415 | Walleye pike |
| f416 | Omega-5 Gliadin |
| f422 | rAra h1 peanut comp |
| f423 | rAra h2 peanut comp |
| f424 | rAra h3 peanut comp |
| f425 | rCor a8 (H nut comp) |
| f427 | rAra h9 peanut comp |
| f428 | rCor a1 (H nut comp) |
| f439 | rCor a14 (H nut comp) |
| f440 | nCor a9 (H nut comp) |
| f441 | rJug r1 Walnut |
| f442 | rJug r3 LTP, Walnut |
| fx1 | (f13, f17, f18, f20, f36) Nut Mix |
| fx2 | (f3, f24, f37, f40, f41) Seafood mix |
| fx3 | (f4, f7, f8, f10, f11) cereal mix |
| fx5 | (f1, f2, f3, f4, f13, f14) common food mix |



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| | |
|--------------------------|---|
| fx9 | (f20, f84, f87, f92, f259) Mixed fruit 1 |
| fx15 | (f33, f49, f92, f95) Mixed fruit 2 |
| fx16 | (f44, f94, f208, f210) Mixed fruit 3 |
| fx22 | (f201, f202, f203, f256) mixed nuts |
| fx71 | (f265, f266, f267, f268) Spice Mix |
| fx74 | (f3, f205, f206, f254) Mixed Fish |
| Mites | |
| d1 | Dermatophagoides pteronyssinus - HDM |
| d2 | Dermatophagoides farinae - HDM |
| Insect and Venoms | |
| i1 | Honey bee |
| i3 | Common wasp (yellow jacket) |
| i70 | Fire ant |
| i71 | Mosquito |
| i75 | European hornet |
| i204 | Horse fly |
| Occupational | |
| k70 | Green coffee bean |
| k72 | Ispaghula |
| k75 | Isocyanate TDI (Toluene diisocyanate) |
| k76 | Isocyanate MDI (Diphenylmethane diisocyanate) |
| k77 | Isocyanate HDI (Hexamethylene diisocyanate) |
| k78 | Ethylene oxide |
| k79 | Phthalic anhydride |
| k80 | Formaldehyde/Formalin |
| k82 | Latex |
| k84 | Sunflower seed |
| k86 | Trimellitic anhydride, TMA |
| k87 | nAsp 021 alpha-amylase |
| Drugs | |
| c1 | Penicilloyl G |
| c2 | Penicilloyl V |
| c5 | Ampicilloyl |
| c6 | Amoxicilloyl |
| c7 | Cefaclor |
| c8 | Chlorhexidine |
| c71 | Insulin bovine |
| c73 | Insulin human |
| c74 | Gelatin bovine |



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| | |
|---------------------------------------|---|
| c202 | Suxamethonium |
| c260 | Morphine |
| Epidermals and Animal Proteins | |
| e1 | Cat dander |
| e3 | Horse dander |
| e4 | Cow dander |
| e5 | Dog dander |
| e6 | Guinea pig epithelium |
| e7 | Pigeon droppings |
| e70 | Goose feathers |
| e71 | Mouse epithelium |
| e72 | Mouse urine proteins |
| e73 | Rat epithelium |
| e74 | Rat urine proteins |
| e77 | Budgerigar droppings |
| e78 | Budgerigar feathers |
| e80 | Goat epithelium |
| e81 | Sheep epithelium |
| e82 | Rabbit epithelium |
| e83 | Swine epithelium |
| e84 | Hamster epithelium |
| e85 | Chicken feathers |
| e86 | Duck feathers |
| e87 | Rat epithelium serum and urine proteins |
| e88 | Mouse epithelium serum and urine proteins |
| e89 | Turkey feathers |
| e196 | Parakeet feathers |
| e197 | Parakeet droppings |
| e200 | Canary bird droppings |
| e201 | Canary bird feathers |
| e208 | Chinchilla epithelium |
| e211 | Rabbit urine proteins |
| e213 | Parrot feathers |
| e215 | Pigeon feathers |
| ex71 | (e70, e85, e86, e89) Feather mix |
| ex72 | (e78, e201, e196, e213, e214) Cage bird mix |
| Microorganisms | |
| m2 | Cladosporium herbarum |
| m3 | Aspergillus fumigatus |



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| | |
|----------------------|--|
| m5 | Candida albicans |
| m6 | Alternaria alternata |
| m80 | Staphylococcal enterotoxin A |
| m81 | Staphylococcal enterotoxin B |
| m202 | Acremonium kiliense |
| m227 | Malassezia |
| mx1 | (m1, m2, m3, m6) Mould Mix |
| Weed Pollens | |
| w6 | Mugwort |
| w203 | Rape |
| wx3 | (w6, w9, w10, w12, w20) Weed Mix |
| Tree Pollens | |
| t2 | Grey alder |
| t3 | Common silver birch |
| t4 | Hazel |
| t7 | Oak |
| t8 | Elm |
| t11 | Maple leaf sycamore, London plane |
| t16 | White pine |
| t17 | Japanese cedar |
| t25 | European ash |
| t201 | Spruce |
| tx8 | (t1, t3, t4, t7, t11) tree mix |
| tx9 | (t2, t3, t4, t7, t12) Tree Mix 2 |
| Grass Pollens | |
| g1 | Sweet vernal grass |
| g5 | Rye-grass |
| g6 | Timothy grass |
| g12 | Cultivated rye |
| gx3 | (g1, g5, g6, g12, g13) Grass mix |
| Miscellaneous | |
| o1 | Cotton, crude fibers |
| o70 | Seminal fluid |
| o215 | nGal-alpha-1,3-Gal (alpha-Gal) Thyroglobulin, bovine |
| pax4 | (f4, f14, k87, i202) Millers mix |