


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 UKAS MEDICAL 9609 Accredited to ISO 15189:2012	NHS Greater Glasgow & Clyde Issue No: 004 Issue date: 20 August 2020	
	Laboratory Medicine and Facilities Management 1345 Govan Road Glasgow G51 4TF	Contact: Gajan Sivarajah Tel: +44 (0) 141 354 9540 E-Mail: gajan.sivarajah@ggc.scot.nhs.uk

Testing performed by the Organisation at the locations specified below

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
Address Laboratory Medicine and Facilities Management Building 1345 Govan Road Glasgow G51 4TF	Andrology Cervical Cytology Diagnostic Cytology Routine Histology Frozen Section Special stain Histology Special Histology Neuropathology Electron Microscopy	A
Frozen Section Lab Glasgow Royal Infirmary 84 Castle Street Glasgow G4 0SF	Frozen Sections	B
Frozen Section Lab Golden Jubilee Hospital Agamemnon Street Clydebank G81 4DY	Frozen sections	C



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Locations of other activities:

Location details	Activity
QEUH Mortuary Laboratory Medicine and Facilities Management 1345 Govan Road Glasgow G51 4TF	Mortuary and Body store
GRI Glasgow Royal Infirmary Body Store 84 Castle Street Glasgow G4 0SF	Body Store
Royal Alexandra Hospital body store Corsebar Road Paisley PA2 9PN	Body Store
Inverclyde Royal Hospital Body store Larkfield Road Greenock PA16 0XN	Body Store
Gartnavel Hospital body store 1053 Great Western Road Glasgow G12 0YN	Body Store
Vale of Leven Body store Main Street Alexandria G83 0UA	Body Store
Yorkhill archive store West Glasgow Ambulatory Care Hospital Dalnair Street Yorkhill Glasgow G3 8SJ	Slides and block storage
Vale of Leven archive store Main Street Alexandria G83 0UA	Slides and block storage



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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 and TISSUE	<u>Andrology examinations to assist clinical diagnosis</u>	Fertility and Retrograde techniques carried out manually according to WHO (2010) guidelines PVSA analysis following ABA,BAS,BAUS 2016 guidelines	A
Semen	Fertility Analysis Semen volume, Sperm Concentration Sperm Motility Morphology pH (on sample volumes <1ml only)	Microscopy by counting chamber using a phase contrast microscope Microscopy by Wet prep using phase contact microscopy Microscopy using Papanicolaou stained slides Using pH paper (pH range 5-10)	
Semen	Post vasectomy testing Sperm presence/absence Sperm Concentration	SOP PATH-AND-LP-063 Microscopy using large volume cells Microscopy using phase contact microscope and LVC or Improved Naubauer Counting Chamber	
Urine	<u>Antegrade/ Retrograde testing</u> <u>Sperm presence/absence</u>	SOP PATH AND LP 064 Microscopy using phase contrast microscope SOP PATH AND LP 065	A
Cervical Smears	<u>Cervical Cytology examinations to assist in clinical investigations</u> Cervical smear abnormalities	In House documented procedure & manufacturer's instructions using the following equipment Prep PATH-CY-LP-008 Hologic T5000 Autoloader PATH-CY-LP-009 Hologic T2000 Processor PATH-CY-LP-021 Beckman Centrifuge PATH-CY-LP-022	A



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HUMAN BODY FLUIDS and TISSUE (cont'd) Cervical Smears	<u>Cervical Cytology examinations to assist in clinical investigations (cont'd)</u> Cervical smear abnormalities	In House documented procedure & manufacturer's instructions using the following equipment Papanicolaou staining (PATH CY LP 008) on Leica Autostainer XL PATH CY LP 010 Leica Coverslipper CV5030 PATH CY LP 011 Hologic Imaging System PATH-CY-LP-020 Hologic Reviewscopes PATH-CY-LP-034	A
Slides/images prepared in house as above	Morphological assessment and interpretation/diagnosis	Hologic Reviewscope Primary screening, Rapid Review, Checking and Medical Reporting PATH-CY-LP-001	
Wet fixed preparations Serous fluids, Respiratory FNA's, Washings, Brushings, Urines Cyst Fluids and 'other' fluids EBUS samples, synovial fluids	<u>Diagnostic Cytology examinations to assist in clinical investigations</u>	In House documented procedure & manufacturer's instructions using the following equipment:	A
Air dried Preparations Serous fluids, FNA's, synovial fluids FNA Wet fixed Preparations: breast, thyroid, lymph node	Detection of abnormal cells	PAP stain Method using Leica XL Autostainer SOP;- operation of PATH-NG-LP-147 Pap staining;-PATH-NG-LP-199	
Serous fluids, Knee joint aspirates, Respiratory specimens CSF		Manually stained using Rapid Romanowsky(Diff Quick) stain SOP PATH –NG-LP-196	
Respiratory specimens		Manually stained using Leishman stain and microscopy SOP PATH-NG-LP-0-197	
Slides prepared in house as above	Morphological assessment and interpretation/diagnosis	Microscopy and Reporting SOP PATH-NG-LP-273; PATH-NG-LP-271	



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HUMAN BODY FLUIDS and TISSUES (cont'd)	<u>Frozen Section Histology Examinations & Touch Preparations to assist in clinical investigations</u>	In House documented procedure & manufacturer's instructions using the following	
Fresh Tissue	Detection of abnormal cells	Shandon Cryostat FE- manufacturer's instructions PATH-SHI-GEN-LP-002, PATH-SHI-NP-LP-007, 008, 012- 014 & 036	A, B, C
Post Mortem tissue (Fresh)	Basophilic and eosinophilic cells	Manual methods using H&E stain and Microscopy PATH-HI-LP-003/004	
	Lipids	Oil Red O PATH-SHI-GEN-LP-001, PATH-SHI-GEN-LP-002, PATH-SHI-GEN-LP-003, PATH-SHI-GEN-LP-006, PATH-SHI-GEN-LP-010	A
Human Brain, CNS & PNS	Basophilic and eosinophilic cells	H&E PATH-SHI-GEN-LP-002, PATH-SHI-NP-LP-007, 008, 012- 014 & 036	
	General brain morphology	Toluidine Blue PATH-IMM-LP-013 PATH-SHI-GEN-LP-002 PATH-SHI-NP-LP-001 - 004 & 006 -013	
Muscle	Basophilic and eosinophilic cells	H&E PATH-SHI-EH-LP-009 & 036	
Rectal Tissue	Hirschsprungs disease	Methylene Blue PATH-SHI-GEN-LP-004, PATH-SHI-GEN-LP-001, PATH-SHI-GEN-LP-002, PATH-SHI-GEN-LP-014	
Frozen sections of Rectal tissue	Hirshsprung's disease-	Acetylcholinesterase PATH-SHI-GEN-LP-005 & 089. PATH-SHI-EH-LP-036	
Tissues prepared as above	Morphological assessment and interpretation/diagnosis Reporting	SOP PATH-MD-LP-004	



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HUMAN BODY FLUIDS and TISSUES (cont'd)	<u>Routine Histopathology examinations to assist in clinical investigations</u>	<p>In House documented procedure & manufacturer's instructions using the following</p> <p>BMS Dissection manual;- PATH-BSD-LP002;003;049;052;053;067;</p> <p>Decalcification of Paediatric and adult calcified tissue SOP Downdraft bench. PATH-SHI-GEN-LP-037</p> <p>Leica EH1150 Embedding Centres (x7). PATH-HI-LP-007/008 PATH-SHARE-MM-012/013 PATH-HI-LP-009/010</p> <p>Leica RM2235 microtomes (x5) PATH-SHARE-MM-014</p> <p>Leica RM2255 microtomes (x17). PATH-SHARE-MM-015</p> <p>Shandon Finesse microtomes (x3). PATH-HI-LP-009/012 PATH-SHARE-MM-018</p> <p>Leica ST5010 Autostainers (x3). PATH-HI-LP-003/004 PATH-SHARE-MM-016</p> <p>Leica CV5030 Coverslipper (x3). PATH-HI-LP-005 PATH-SHARE-MM-017</p>	A
Routine paraffin sections	Identification of basophilic and eosinophilic structures	Routine staining (H&E) PATH-HI-LP-005 PATH SHARE MM 017	



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HUMAN BODY FLUIDS and TISSUES (cont'd)	<u>Routine Histopathology examinations to assist in Neuro clinical investigations</u>	In House documented procedure & manufacturer's instructions using the following	A
Paraffin sections of; Brain, CNS, PNS & Temporal artery Muscle	Identification of basophilic and eosinophilic structures	Shandon Varistain Gemini Stainer (x2). PATH-HI-LP-047 PATH SHARE MM 019 Routine staining (H&E) Manual method using PATH-SHI-NP-LP-029 & 036 PATH-SHI-EH-LP-009 & 036	
Paraffin sections	<u>Special staining of Histopathology examinations to assist in detection of clinical abnormalities</u>	In House documented manual methods and manufacturer's instructions using Manual methods and Microscopy SOPs -PATH-HI-LP- series	A
	Acid Mucins	Alcian Blue (pH2.5)	
	Amyloid	Highman's Congo Red	
	Amyloid	Sirius Red	
	Amyloid	Thioflavine T	
	Basement Membrane	Jones' Methenamine Silver - Light Green	
	Calcium	Von Kossa	
	Cblood cell differentiation	Giemsa	
	Collagen/Muscle	Masson Trichrome (Microwave)	
	Copper/Hepatitis B antigen	Shikata'sOrcein	
	DNA	Feulgen	
	Ferric Iron	Perl's Prussian Blue	



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HUMAN BODY FLUIDS and TISSUES (cont'd)	<u>Special staining of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u>	In House documented manual methods and manufacturer's instructions using Manual methods and Microscopy SOPs -PATH-HI-LP- series	A
Paraffin sections (cont'd)	Fungi, PCP	Grocott's (Microwave)	
	Gram +ve/-ve organisms	Gram	
	Hyaluronic Acid Digestion	Alcian Blue (PH2.5) + - Hyaluronidase	
	Lipofuscin	Ziehl Neelsen (ZN)	
	Mast Cells	Toluidine Blue	
	Melanin	Masson Fontana (Microwave)	
	Melanin	Schmorl's	
	Mitochondria, Muscle Striations, Myelin, chromatin	Heidenhain's Iron Haematoxylin	
	Mucin/Glycogen differentiation	Southgate's Mucicarmine	
	Muscle Striations	Mallory's PTAH	
	<i>Mycobacterium Leprae</i> (+ other mycobacteria)	Wade Fite	
	Proteoglycans, Hyaluronic acid, acid mucin	Hale's Colloidal Iron	
	Reticulin Fibres	Gordon and Sweets Retic	
	Spirochaetes	Warthin Starry	
	Tubercle Bacilli	Auramine O	
	Tubercle Bacilli (+ other mycobacteria)	Zeihl Neelsen (Prolonged)	
	Viral Inclusions/Paneth Cell Granules	PhloxineTartrazine (Red Yellow)	



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HUMAN BODY FLUIDS and TISSUES (cont'd)	<u>Special staining of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u>	Auto and semi-auto staining using Shandon Varistain Gemini Stainer (x2). PATH-HI-LP- 047 PATH-SHARE-MM-019	A
Paraffin sections	Acid/Neutral Mucins	Alcian Blue-PAS +/- D	
	Basement Membrane	Jones' Methenamine Silver - H&E	
	Collagen/Fibrin/Muscle	MSB	
	Elastic Fibres	Miller's Elastic H&E (Microwave)	
	Elastic Fibres/Connective Tissue	Miller's Elastic MSB (Microwave)	
	Elastic Fibres/Connective Tissue	Miller's Elastic Van Gieson (Microwave)	
	<i>Helicobacter Pylori</i>	Cresyl Fast Violet	
	Melanin digestion	Melanin Bleach	
	Mucin/Glycogen differentiation	PAS +/-D	
	Muscle/Fibrin/Collagen	Van Gieson	
Slides as prepared above	Morphological assessment and interpretation/diagnosis Reporting	SOP PATH-MD-LP-004	



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HUMAN BODY FLUIDS and TISSUES (cont'd)	<u>Specialist Histology examinations to assist in detection of clinical abnormalities</u>	Manual methods and microscopy	A
Paraffin sections of;Brain & CNS	Myelin, Neurones and NISSL substance	Luxol fast blue/Cresyl violet, PATH-SHI-NP-LP-031 & 036	
	Neurones and NISSL substance	Cresyl violet-PATH-SHI-NP-LP-033 & 036	
Paraffin sections of;Brain, CNS & PNS	Nerve Fibres	PalmgrenPATH-SHI-NP-LP-032 & 036	
Paraffin sections of;Brain	senile plaques & neurofibrillary tangles	Modified Bielschowsky-PATH-SHI-NP-LP-034 & 036	
	neurofibrillary tangles & plaques	GallayasPATH-SHI-NP-LP-035 & 036	
Frozensections of;Muscle	General morphology, mitochondrial activity, nemaline rods, rimmed vacuoles	Modified Gomori's Trichrome - Corning 140 pH meter - PATH-SHI- EH-LP-010, 030 & 036	
	Lipid	Sudan Black B - PATH-SHI-EH-LP-011 & 036	
	Lipid	Oil Red O PATH-SHI-EH-LP-012 & 036	
	Glycogen	PAS & PAS Diastase - PATH-SHI-EH-LP-013 & 036	
	TR Reductase -	NADH -using Corning 140 pH meter and microscopyPATHSHI-EH-LP-014, 030 & 036	
	Lysosomal storage disorders &vascular myopathies	Acid Phosphatase activity - PATH-SHI-EH-LP-015, 030 & 036	
	Fibre typing - fibres with abnormal mitochondria.	Succinate dehydrogenase -PATH-SHI-EH-LP-016, 030 & 036	



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HUMAN BODY FLUIDS and TISSUES (cont'd)	<u>Specialist Histology examinations to assist in detection of clinical abnormalities (cont'd)</u>	Manual methods and microscopy	A
	Fibre type pattern, fibres devoid of activity	Cytochrome oxidase -PATH-SHI-EH-LP-017, 030 & 036	
	Fibres devoid of cytochrome oxidase activity	Combined COX/ SD - PATH-SHI-EH-LP-018, 030 & 036	
	Enzyme activity absent in McArdle's disease	Myophosphorylase -PATH-SHI-EH-LP-019, 030 & 036	
Frozen sections of;Muscle	Fibre typing, distribution and involvement of fibre types and their sub-types	Adenosine Tri-phosphate - PATH-SHI-EH-LP-020, 021, 030 & 036	
	Exertional Myalgia	Adenylate deaminase Corning 140 pH meter - PATH-SHI-EH-LP-022	
Fresh samples of ciliated epithelium	Primary Ciliary Dyskinesia	Light microscopy of cilia samples PATH-SHI-GEN-LP-055	
Processed gastric tissue biopsies	Identification of Helicobacter Pylori.	Diff quick staining PATH-SHI-GEN-LP-023	
Slides as prepared above	Morphological assessment and interpretation/diagnosis Reporting	SOP PATH-MD-LP-004	



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HUMAN BODY FLUIDS and TISSUES (cont'd) Paraffin sections	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities</u> Alpha 1 antitrypsin-liver disease Adeno carcinoma - CEA antigen Adenocarcinoma AMACR Protein Androgen receptor +ve cells Anti-Mullerian Hormone Basal Epithelium Breast LCIS V DCIS - Epithelial cells C4d complement in kidney allograft rejection Ca19.9 Antigen Carcinomas - GCDP Protein Cell proliferative marker - Dividing Nuclei Colonic epithelium Epithelial cells Epithelial cells Dermatological and lymphoma disease - langerhan cells	In-House documented procedures and manufacturer instructions using Leica Bond 3 Immunostainers x9 SOPs;-PATH-ICC-LP-004, 005, 006,007,008 & 010 A-1-Anti trypsin CEA (MONO) CEA(Poly) AMACR Androgen receptor AMH CK34 E-CADHERIN C4d Ca19.9 GCDP KI67 CDX2 CK3 CK12 Langerin	A



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HUMAN BODY FLUIDS and TISSUES (cont'd) Paraffin sections (cont'd)	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u> Dermatology / lymphoma conditions - Dendritic Cells / langerhans cells Detection of Syphilis Dyskaryotic glands EBV virus EBNA 2 virus Endocrine cells / islet cell tumours Endocrine cells / islet cell tumours / thyroid Ca/ carcinoid tumours Endometrial / Mesothelium cells Endothelial cells / tumours Endothelial cells / tumours Von Willebrands enterochromaffin cells Epithelial marker- Meso v Adeno Epithelial Cells Epithelial cells, adenocarcinomas	In-House documented procedures and manufacturer instructions using Leica Bond 3 Immunostainers x9 SOPs;-PATH-ICC-LP-004, 005, 006,007,008 & 010 CD1a T.Pallidum P-TEN EBV-LMP EBNA2 Glucagon Chromogranin GLUT-1 CD31 CD34 Factor 8 Serotonin 5HT ERA(MOC 31) B-Catenin Ber-EP4	A



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HUMAN BODY FLUIDS and TISSUES (cont'd) Paraffin sections (cont'd)	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u> Erythrocytes Ewing's sarcoma / Lymphoma Expression of p16 - P16 protein Factor XIII Galectin 3 Protein Gastric Epithelium Gastric, Intestinal, urothelium epithelium and Merkel cells Gastrin GATA 3 Binding Protein Germ cell tumours GIST TUMOURS Interstitial cells of Cajal in GI tract, GIST tumours Glandular epithelial cells Glypican 3 Protein Goblet cells H Pylori positive cells Hairly cell leukaemia HB virus infected cells	In-House documented procedures and manufacturer instructions using Leica Bond 3 Immunostainers x9 SOPs:-PATH-ICC-LP-004, 005, 006,007,008 & 010 Glycophorin C CD99 P16 Factor 13 Galectin 3 MUC1 CK20 Gastrin Gata-3 OCT 3/4 CD117 (C-KIT) DOG-1 Mammoglobulin Glypian3 TFE3 H Pylori DBA44 HB Surface	A



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HUMAN BODY FLUIDS and TISSUES (cont'd) Paraffin sections (cont'd)	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u> HB virus infected cells Hepatoblastoma / Hepatocarcinoma - Hepatocytes HHV8 virus HPV virus HSV virus IL4 receptor Inhibin Alpha protein Islet cell tumours - islets of Langerhans Islet cell in pancreas L cells in intestine, A cells in pancreas Lung Adenocarcinomas Lymphatic Endothelium/ mesothelial cells C-MYC nuclear protein involved in proliferation and differentiation of cells. - mantle cell lymphomas Anaplastic lymphoma kinase (Human p80 protein)	In-House documented procedures and manufacturer instructions using Leica Bond 3 Immunostainers x9 SOPs;-PATH-ICC-LP-004, 005, 006,007,008 & 010 HB Core Hepar-1 HHV8 HPV HSV-1 STAT6 Inhibin Insulin Somatostatin GLP-1 Napsin A D2-40 c-myc Sox-11 Alk Protein	A



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HUMAN BODY FLUIDS and TISSUES (cont'd) Paraffin sections (cont'd)	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u> Normal, early progenitor lymphoid cells; B lymphocytes in germinal centres B lymphocytes Key molecule for B cell activation and growth Follicular dendritic cells, B cells Follicular center cell lymphoma; identify Reed-Sternberg cells Normal & neoplastic B lymphocytes Pluripotent germ cell tumours Pre-B cells Multifunctional enzyme, identify plasma cells and plasmablastic differentiation Dendritic Cells and Interleukin 3 receptor a-chain in Monocytes; neutrophils; basophils Follicular Dendritic Cells Germinal centre Cells	In-House documented procedures and manufacturer instructions using Leica Bond 3 Immunostainers x9 SOPs;-PATH-ICC-LP-004, 005, 006,007,008 & 010 CD10 CD20 CD23 CD35 CD75 CD79a OCT 2 PAX 5 CD38 CD123 CD21 BCL6	A



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HUMAN BODY FLUIDS and TISSUES (cont'd) Paraffin sections (cont'd)	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u> B cell populations in reactive lymphoid tissues (germinal b cless + plasma cells) Hairy cell leukemia IL2r Receptor Mantle zone B lymphocytes & inter-follicular T lymphocytes and other rare tumour types T & B lymphocytes Multiple myeloma oncogene-1 Mantle Cells Mast Cells Megakaryocytes Megakaryocytes/Platelets Monocytes Myeloid cells Plasma Cells Plasma cells and related lymphoid cells containing IgA Plasma cells and related lymphoid cells containing IgG Plasma cells and related lymphoid cells containing IgM	In-House documented procedures and manufacturer instructions using Leica Bond 3 Immunostainers x9 SOPs:-PATH-ICC-LP-004, 005, 006,007,008 & 010 BOB-1 Anenxenin CD25 BCL2 CD45 MUM-1 Cyclin D1 Mast cell tryptase CD42b CD61 CD33 Myeloperoxidase CD138 IgA IgG IgM	A



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HUMAN BODY FLUIDS and TISSUES (cont'd) Paraffin sections (cont'd)	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u> Plasma cells and related lymphoid cells containing IgG4 Plasma cells and related lymphoid cells containing IgE Plasma cells and related lymphoid cells containing Kappa light chains Plasma cells and related lymphoid cells containing Lambda light chains –Reed Stenberg Cells T /B Lymphocytes T cells- Terminal deoxynucleotidyl transferase in thymic and small number of bone marrow cortical lymphocytes Cytolytic lymphocytes, cytotoxic T- cells T Cells/NK cells Circulating T lymphocytes T lymphocytes; helper/inducer T lymphocytes Helper/inducer T lymphocytes	In-House documented procedures and manufacturer instructions using Leica Bond 3 Immunostainers x9 SOPs;-PATH-ICC-LP-004, 005, 006,007,008 & 010 IgG4 IgE Kappa light chain Lambda Light chain CD30 CD44 TDT TIA ZAP 70 CD2 CD3 CD4	A



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HUMAN BODY FLUIDS and TISSUES (cont'd) Paraffin sections (cont'd)	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u> Germinal centre T lymphocytes; B lymphocyte subset Peripheral blood T lymphocytes; NK cells; thymocytes Suppressor/cytotoxic T lymphocytes T lymphocytes; myeloid lineage cells T & B lymphocytes Cytotoxic T Lymphocytes, Natural killer cells Histiocytes NK Cells -Reed Stenberg Cells/Granulocytes Cell adhesion in gut Macrophages; monocytes; granulocytes Macrophages / Lymphoma - Mast Cells Melanocytes Melanocytes	In-House documented procedures and manufacturer instructions using Leica Bond 3 Immunostainers x9 SOPs;-PATH-ICC-LP-004, 005, 006,007,008 & 010 CD5 CD7 CD8 CD43 CD45-RO Granzyme B CD11C CD57 CD15 (leum1) ATPase CD68(PGM1) Mac-387 MITF HMB45	A



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

NHS Greater Glasgow & Clyde

Issue No: 004 **Issue date:** 20 August 2020

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
HUMAN BODY FLUIDS and TISSUES (cont'd) Paraffin sections (cont'd)	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u> Melanocytes Melanomas / Melanocytes Normal and neoplastic melanocytes; macrophages; adipocytes; nerve fibres; many tumour types Mesenchymal cells Mesenchymal cells Mesothelial / neuron cells Mesothelial cells Mesothelioma - Mesothelial Cells MGMT Protein Mucin 4 protein Muscle cells Smooth Muscle Cells Smooth muscle cells Myeloid cells, lymphocytes and macrophages Nervous tissue and neuroendocrine cells Neuroblastoma - cytoplasmic in most cells	In-House documented procedures and manufacturer instructions using Leica Bond 3 Immunostainers x9 SOPs:-PATH-ICC-LP-004, 005, 006,007,008 & 010 Melan A Tyrosinase S100 Tenascin Vimentin Calretinin Thrombo CD141 Mesothelin MGMT MUC-4 Muscle Specific Actin Caldesmon Calponin TRAP-1 NSE Neuroblastoma	A



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HUMAN BODY FLUIDS and TISSUES (cont'd) Paraffin sections (cont'd)	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u> Neurofibrillary tangles in Alzheimer's disease neurones, axons, dendrites. Neurones/ nerves/neuroendocrine cells Neurons, Neuroendocrine cells Glial fibrillary acidic protein (Neural cells) Astrocytes Neuronal cell marker Neuronal intermediate filament Lewy bodies / degenerative neurons presence of Amyloid Amyloid Used to aid identification of gliomas NK cells, Schwann cells, neuroendocrine cells, T lymphocytes Non keratinised, stratified squamous epithelial cells / Mesotheliomas Ovarian & Wilms tumour	In-House documented procedures and manufacturer instructions using Leica Bond 3 Immunostainers x9 SOPs:-PATH-ICC-LP-004, 005, 006,007,008 & 010 TAU Tyrosinase Hydroxylase PGP 9.5 Synaptophysin GFAP Neun N Neurofilament A-SYN BAPP B-Amyloid IDH1 CD56 CK5 WT1	A



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HUMAN BODY FLUIDS and TISSUES (cont'd)	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u>	In-House documented procedures and manufacturer instructions using Leica Bond 3 Immunostainers x9	A
Paraffin sections (cont'd)		SOPs;-PATH-ICC-LP-004, 005, 006,007,008 & 010	
	Ovarian Panel - Ca125 Antigen	Ca125	
	Ovarian Tumours - Nuclear Antigen	PAX 8	
	P Jirovec Organisms	PnemocytisisJirovec	
	P53 expression	P53	
	P57 protein	P57	
	Pan Epithelial marker - Epithelial Cells	AE1/AE3	
	Pan Muscle marker	Desmin	
	Pancreatic Polypeptide	PPP	
	Parafollicular cells in thyroid	Calcitonin	
	Parathyroid Hormone	Parathyroid Hormone	
	Parvo virus	Parvo virus	
	Pituitary tumours - Gonadotrophic cells	ACTH	
	Follicle Stimulating Hormone	FSH	
	Human Growth Hormone	HGH	
	Leutinzing Hormone	LH	
	Prolactin hormone	PROLACTIN	
	Thyroid stimulating hormone	TSH	



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HUMAN BODY FLUIDS and TISSUES (cont'd)	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u>	In-House documented procedures and manufacturer instructions using Leica Bond 3 Immunostainers x9	A
Paraffin sections (cont'd)		SOPs:-PATH-ICC-LP-004, 005, 006,007,008 & 010	
	Pneumocytes / alveolar macrophages	Surfactant Apolipoprotein	
	Presence of Amyloid - Amyloid	Amyloid A	
	Presence of Amyloid - Amyloid	Amyloid P	
	Prostate secretory and ductal epithelium	PSA	
	Prostate secretory and ductal epithelium	PSAP	
	Renal cell Carcinomas - apical surface of cortical tubules	RCC	
	Rhabdiod tumours	INI-1(BAF-47)	
	Rhabomyosarcoma marker - skeletal Muscle	MyoD1	
	Skeletal muscle	Myogenin	
	Simple and glandular epithelium	Cam 5.2	
	Smooth muscle cells	SMM	
	Specific epithelial cells	CK2	
	Simple, glandular & transitional epithelia	CK7	
	Cytokeratin marker	CK10	
	Epithelia	CK19	



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HUMAN BODY FLUIDS and TISSUES (cont'd) Paraffin sections (cont'd)	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u> Hair follicles, basal keratinocytes in stratified epithelium (various tissue/organs), myoepithelial cells (breast and salivary gland), thyroid oncocytes Squamous cell carcinoma - Basal Epithelium Squamous cell carcinoma - Epithelial cells Stratified squamous epithelium, basal cells, mesotheliomas Striated muscle Syncytiotrophoblasts T Cells T Lymphocytes Thyroglobulin producing cells Toxoplasma Trophoblastic disease/ Germ cell tumours - syncytiotrophoblasts Tyroid and lung tumours Yolk sac / Germ Cell tumours - A-Fetalprotein	In-House documented procedures and manufacturer instructions using Leica Bond 3 Immunostainers x9 SOPs:-PATH-ICC-LP-004, 005, 006,007,008 & 010 CK14 P63 P40 CK5/6 Sarcomeric actin PLAP PD1 Beta -F1 Thyroglobulin Toxoplasma Beta HCG TTF-1 a-1-Fetal protein	A



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HUMAN BODY FLUIDS and TISSUES (cont'd)	<u>Immunocytochemistry of Histopathology examinations to assist in detection of clinical abnormalities (cont'd)</u>		
Slides as prepared above	Morphological assessment and interpretation/diagnosis Reporting	SOP PATH-MD-LP-004	
Paraffin sections	Cellular oestrogen receptor expression	Ventana Benchmark Ultra's x2. In-House documented procedures and manufacturer instructions. PATH-ICC-LP-010, 019, 020, 021,022,023,025,026, Oestrogen receptor (ER)	
	Cellular progesterone receptor expression	Progesterone receptor (PR)	
	HER2	HER2	
	In situ hybridization (ISH)of Histopathology examinations to assist in detection of clinical abnormalities		
	Detection of mRNA in Lymphomas;-ISH Markers		
	Epstein Barr Encoded RNA expressing cells	EBER probe	
	Kappa Mrna	Inform Kappa probe	
	Lambda mRNA	Inform Lambda probe	



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HUMAN BODY FLUIDS and TISSUES (cont'd)	<u>Immunofluorescence of Histopathology examinations to assist in detection of clinical abnormalities</u>	Manual staining. In-House documented procedures. PATH-IMM-LP-001,002,16. 017 & 019.	A
Renal/Skin samples	Deposition of IgG Deposition of IgA Deposition of IgM Deposition of C3 Deposition of Kappa Deposition of Lambda Deposition of Fibrinogen Deposition of C1Q	IgG-FITC IgA-FITC IgM-FITC C3-FITC Kappa-FITC Lambda-FITC Fibrinogen-FITC C1Q-FITC	
Slides as prepared above	Morphological assessment and interpretation/diagnosis Reporting	SOP PATH-MD-LP-004	
Muscle fibres	<u>Immunocytochemistry for Demonstration of muscle fibre architecture</u> Cytoskeletal protein Inflammatory myopathies Limb-girdle muscular dystrophy Limb-girdle muscular dystrophy Limb-girdle muscular dystrophy Sarcoglycanopathies Sarcoglycanopathies Sarcoglycanopathies Sarcoglycanopathies Congenital muscular dystrophies	Menarini Intellipath Immunostainer Path-ICC-LP-010, 012, -013, 014, 015. Spectrin Utrophin DYS1 DYS2 DYS3 SARC A SARC B SARC G SARC D LAM A2	A



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HUMAN BODY FLUIDS and TISSUES (cont'd)	<u>Immunocytochemistry for Demonstration of muscle fibre architecture (cont'd)</u>	Menarini Intellipath Immunostainer Path-ICC-LP-010, 012, -013, 014, 015.	A
Muscle fibres	Congenital muscular dystrophies	LAM A5	
	Congenital muscular dystrophies	LAM B1	
	Congenital muscular dystrophies	LAM B2	
	Congenital muscular dystrophies	HAM 1	
	Congenital muscular dystrophies	HAM 2	
	Rare muscle diseases	Emerin	
	Neonatal muscle myosin	Neomyosin	
Slides as prepared above	Morphological assessment and interpretation/diagnosis	Microscopy SOP PATH-MD-LP-004	
	<u>Electron Microscopy examinations to assist in detection of clinical abnormalities</u>	In house documented procedure & manufacturer's instructions using	A
Tissue, fluids and samples		Tissue processing & embedding Leica EMTP & Genlab oven, Mistral centrifuge and Eppendorf mini-spin PATH-EM-LP-014, 022-027, PATH-EM-LP-079-080	
		Tissue sectioning for light and electron microscopy using Leica EM UC7, Leica KMR3, Leica EM MP, PATH-EM-LP-028, 029	
	Demonstration of general tissue architecture	Tissue staining for light microscopy manual methods -Toluidine blue	



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HUMAN BODY FLUIDS and TISSUES (cont'd)	<u>Electron Microscopy examinations to assist in detection of clinical abnormalities (cont'd)</u>	In house documented procedure & manufacturer's instructions using	A
Tissue, fluids and samples (cont'd)	Contrast enhancement of tissue architecture of ultrathin sections	Contrast enhancement ; -manual methods and microscopy ; - Uranyl acetate and Reynold lead citrate	
	Detection of abnormal cells	Electron microscopic analysis including digital imaging using FEI Tecnai& Morgagni TEMs PATH-EM-LP-032-042, PATH-EM-LP-045,082	
Slides as prepared above	Morphological assessment and interpretation/diagnosis	Microscopy SOP PATH-MD-LP-004	
End			