


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 Accredited to ISO 15189:2012	University Hospitals Birmingham NHS Foundation Trust	
	Issue No: 002 Issue date: 10 August 2020	
	New Queen Elizabeth Hospital Birmingham Mindelsohn Way Edgbaston Birmingham B15 2GW	Contact: Helen Stokes Tel: +44 (0) 121 371 3344 E-Mail: Helen.Stokes@uhb.nhs.uk Website: https://www.uhb.nhs.uk/laboratory-services-contact.htm
Testing performed at the above address only		

Site activities performed away from the locations listed above:

Location details		Activity
Address Mortuary New Queen Elizabeth Hospital Birmingham Mindelsohn Way Edgbaston, Birmingham B15 2GW	Local Contact Helen Stokes	Body Storage



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DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<p>HUMAN BODY TISSUE AND FLUIDS</p> <p>Fresh Tissue</p>	<p><u>Histology examination activities in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis</u></p>	<p>Macroscopic and Microscopic examination:</p> <p>In house documented frozen section procedure and manufacturer's instructions using Leica Cryostats CM1850 SOP: PDI_S020</p> <p>Specimen Dissection Manual Method using documented procedures SOP's PDI_S002 to PDI_S047</p> <p>Tissue Processing Documented procedures and manufacturer's instructions using Sakura Tissue- Tek VIP 6; Thermo Scientific Pathcentre and Excelsior (SOPs PDI_S016 and PDI_S033)</p> <p>Tissue embedding In-house documentation and Manufactures instructions for the Thermo Shandon HistoStar embedding workstation (SOPs PGH_S029)</p> <p>Tissue sectioning (Microtomy) Manual and semi-automated method using SOP PGH_S031 Leica Rotary Microtome's; PFM microtome's; Thermo Shandon (semi-automated)</p> <p>Documented procedure and manufactures instructions for Leica XL Autostainer / Cover slipper (SOP PGH_S046)</p> <p>Decalcification of tissue samples included in SOPs PDI_S013 and PID_S027</p>



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<p>HUMAN BODY TISSUE AND FLUIDS (cont'd)</p> <p>Formalin fixed tissue processed to paraffin wax (FFPE) Fresh tissue Frozen Tissue</p> <p>Formalin fixed tissue processed to paraffin wax (FFPE)</p>	<p><u>Histology examination activities in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis (cont'd)</u></p> <p>Tissue architecture and nuclear detail (Identification of basophilic and eosinophilic structures)</p> <p>Detection of the following:</p> <p>Amyloid</p> <p>Elastin Fibres</p> <p>Collagen, connective tissue</p> <p>Gram positive and Gram negative organisms</p> <p>Fungi, Pneumocystis</p> <p>Haematopoietic Tissue</p> <p>Fibrin</p> <p>Collagen, connective tissue</p> <p>Helicobacter-type organisms</p> <p>Helicobacter Pylori</p> <p>Mucin</p>	<p>Macroscopic and Microscopic examination:</p> <p>Routine Staining (H&E) using Leica XL Autostainer / Cover slipper (SOP PGH_S046)</p> <p>Leica and Nikon Light Microscopes; Olympus; Zeiss (SOP PGH_S046)</p> <p>In house documented procedures for Special Staining (manual):</p> <p>Congo (Stoke's) Red (PSS_S026)</p> <p>Elastin van Gieson Stain (EVG) (PSS_S001)</p> <p>Haematoxylin Van Gieson (HVG) (PSS_S005)</p> <p>Gram Stain (PSS_S033)</p> <p>Gram Twort Stain (PSS_S002)</p> <p>Grocott's Methanamine Silver (GMS) (PSS_S004)</p> <p>Long Giemsa (Wilkin's Method) Stain (PSS_S007)</p> <p>Martius, Scarlet and Blue (MSB) (PSS_S035)</p> <p>Masson's Trichrome (PSS_S025)</p> <p>Modified Giemsa PSS_S034</p> <p>Modified Masson's Fontana Stain (PSS_S010)</p>



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HUMAN BODY TISSUE AND FLUIDS (cont'd)	<u>Histology examination activities in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis</u> (cont'd)	Macroscopic and Microscopic examination:
Formalin fixed tissue processed to paraffin wax (FFPE)	Detection of the following:	In house documented procedures for Special Staining (manual):
	Mycobacterium Leprae	Mucicarmine (modified Southgate's) Stain (PSS_S013)
	Glomerular Basement Membranes	Modified ZN (Wade Fite) Stain (PSS_S012)
	Glycogen, neutral mucins, fungi, glomerular Basement Membranes	Periodic Acid Methenamine Silver (PAMS) Stain (PSS_S027)
	2µm glomerular basement membranes	Periodic Acid Schiff's (PAS) 2µm PSS_S015
	Copper associated protein, Hepatitis B Surface antigen	Rhodanine (PSS_S019)
	Calcium deposits	Shikata's Orcein (PSS_S014)
	Mast Cells	Toluidine Blue PSS_S021
	Helicobacter-type organisms	Von Kossa Stain (PSS_S022)
	Basophilic and eosinophilic (H&E) Structures	Dako Cover Stainer SOP PGH_S053
		In- house documented immunohistochemical procedures and manufacturer's instructions using Dako Artisan autostainer SOP PSS_S049
	Acid and Neutral mucins	Alcian Blue/ Periodic Acid Schiff's (ABPAS)
	Acid Mucins	Alcian Blue pH2.5 (AB)
	Amyloid	Congo Red
	Carbohydrates / Fungal Organisms / Alpha-1- antitrypsin	Daistase Periodic Acid Schiff's (PASD)



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HUMAN BODY TISSUE AND FLUIDS (cont'd)	<u>Histology examination activities in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis</u> (cont'd)	Macroscopic and Microscopic examination:
Formalin fixed tissue processed to paraffin wax (FFPE)	Fungal organisms	In- house documented immunohistochemical procedures and manufacturer's instructions using Dako Artisan autostainer SOP PSS_S049 Grocott's Methenamine Silver (GMS)
	Iron	Iron Stain
	Glomerular Basement Membranes	Jones' Methenamine Silver
	Connective Tissue	Masson's Trichrome
	Carbohydrates / Fungal Organisms / Glomerular Basement Membranes	Periodic Acid Schiff's (PAS)
	Reticulin fibres at 3µm and at 2µm	Reticulin-Nuclear Fast Red
	Spirochetes, Helicobacter pylori	Warthin Starry (WS)
	Acid Fast bacilli	Acid Fast Bacteria Stain (AFB) In- house documented immunohistochemical procedures and manufacturer's instructions using DAKO Autostainer Link 48 Platforms (Dako Envision FLEX+ detection system) SOP PIC_S001
	Alpha -1-Antitrypsin deposits	A1AT
	Adrenocorticotropin hormone expressing cells	Adrenocorticotropin hormone (ACTH)
Smooth Muscle Cells. Myofibroblasts. Myoepithelial cells	Actin, smooth muscle	
Alpha- Synuclein Protein	Alpha-Synuclein	



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<p>HUMAN BODY TISSUE AND FLUIDS (cont'd)</p> <p>Formalin fixed tissue processed to paraffin wax (FFPE)</p>	<p><u>Histology examination activities in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis</u> (cont'd)</p> <p>Detection of the following:</p> <p>Alpha- 1- Fetoprotein expressing cells</p> <p>Alpha-Methylacyl-CoA Racemase expressing cells</p> <p>Androgen Receptor expressing cells</p> <p>T-cell, B-cells</p> <p>B-cells</p> <p>Beta-Amyloid pre-cursor protein</p> <p>Beta-Catenin expressing cells</p> <p>B- Cells</p> <p>Epithelial Cells</p> <p>Epithelial cells, Sialyl Lewisa containing glycolipids</p> <p>Calcitonin Expressing cells</p> <p>Calponin expressing cells</p> <p>Carcinoembryonic Antigen positive cells</p>	<p>Macroscopic and Microscopic examination:</p> <p>In- house documented immunohistochemical procedures and manufacturer's instructions using DAKO Autostainer Link 48 Platforms (Dako Envision FLEX+ detection system) SOP PIC_S001</p> <p>Alpha- 1- Fetoprotein (AFP)</p> <p>Alpha-Methylacyl-CoA</p> <p>Racemase(AMACR)</p> <p>Androgen Receptor</p> <p>BCL2 Oncoprotein</p> <p>BCL6 Protein</p> <p>Beta-Amyloid (A4)</p> <p>Beta Catenin</p> <p>BOB-1</p> <p>CA-19.9</p> <p>Calcitonin</p> <p>Calponin</p> <p>Carcinoembryonic Antigen (CEA)</p>



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

University Hospitals Birmingham NHS Foundation Trust

Issue No: 002 **Issue date:** 10 August 2020

Testing performed at main address only

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
HUMAN BODY TISSUE AND FLUIDS (CONTD): Formalin fixed tissue processed to paraffin wax (FFPE)	<u>Histology examination activities in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis (cont'd):</u> Detection of the following: Epithelial Cells Epithelial membrane antigen expressing cells Epithelial tumour markers (AE1/ AE3) Epithelial antigen Epstein-Barr virus infected cells Follicular Stimulating Hormone expressing Cells Growth Hormone Expressing Cells Astrocytes Glypican 3 expressing cells Hepatitis B virus surface antigen Human Herpes virus (Type 8) latent nuclear antigen Herpes Simplex Virus -1 infected cells IDH (Isocitrate dehydrogenase) 1 IgG4 Expressing Cells Insulin expressing cells Ki-67 expressing cells	Macroscopic and Microscopic examination: In- house documented immunohistochemical procedures and manufacturer's instructions using Dako Omnis immunostainer SOP PIC_S053 EP4 Epithelial membrane Antigen (EMA) Epithelial tumour markers (AE1/ AE3) Epithelial Related antigen (ESA) Epstein -Barr Virus (EBV) FSH Growth Hormone Glial Fibrillary Acidic Protein (GFAP) Glypican-3 HBsAG HHV-8 CM HSV-1 IDH1 IgG4 Insulin Ki67



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<p>HUMAN BODY TISSUE AND FLUIDS (CONTD):</p> <p>Formalin fixed tissue processed to paraffin wax (FFPE)</p>	<p><u>Histology examination activities in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis (cont'd):</u></p> <p>Detection of the following:</p> <p>Leutenizing Hormone</p> <p>Melan- A expressing cells</p> <p>Melanocytes</p> <p>Mucin 1 expressing cells (CD227)</p> <p>MUM-1- B Cells in the light zone of the germinal centre/ plasma cells / activated T-Cells</p> <p>Myeloperoxidase Expressing cells</p> <p>Neurofilament Protein – expressing cells</p> <p>Neuronal cell</p> <p>Oestrogen Receptor status</p> <p>P16 expressing cells</p> <p>P53 Protein</p> <p>Pax-8 expressing cells</p> <p>Podoplanin expressing cells</p> <p>Progesterone Receptor</p> <p>Prolactin expressing cells</p> <p>Prostate Specific antigen expressing cells</p>	<p>Macroscopic and Microscopic examination:</p> <p>In- house documented immunohistochemical procedures and manufacturer's instructions using Dako Omnis immunostainer SOP PIC_S053</p> <p>Leutenizing Hormone (LH)</p> <p>Melan-A</p> <p>Melanosome</p> <p>MUC1</p> <p>MUM-1</p> <p>Myeloperoxidase</p> <p>Neurofilament Protein</p> <p>Neu-N</p> <p>Oestrogen Receptor</p> <p>P16</p> <p>P53</p> <p>Pax-8</p> <p>Podoplanin (D2-40)</p> <p>Progesterone Receptor</p> <p>Prolactin</p> <p>Prostatic specific antigen (PSA)</p>



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<p>HUMAN BODY TISSUE AND FLUIDS (CONTD):</p> <p>Formalin fixed tissue processed to paraffin wax (FFPE)</p>	<p><u>Histology examination activities in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis (cont'd):</u></p> <p>Detection of the following:</p> <p>Carcinoma of Prostate</p> <p>S100 expressing cells</p> <p>Smooth Muscle cells / Myofibroblasts / Myoepithelial cells</p> <p>Smooth Muscle myosin / Myoepitheial cells</p> <p>Synaptophysin expressing cells</p> <p>Thyroid Stimulating hormone expressing cells</p> <p>Thyroid Transcription Factor -1 expressing cells</p>	<p>Macroscopic and Microscopic examination:</p> <p>In- house documented immunohistochemical procedures and manufacturer's instructions using Dako Omnis immunostainer SOP PIC_S053</p> <p>Prostatic Acid Phosphatase (PSAP)</p> <p>S100</p> <p>Smooth Muscle Actin (SMA)</p> <p>Smooth Muscle Myosin (SMMYO)</p> <p>Synaptophysin</p> <p>TSH</p> <p>TTF1</p>
<p>Slides Prepared in house as above</p> <p>Fresh tissue</p>	<p>Morphological Assessment and interpretation / Diagnosis</p>	<p>PAA_S018.</p> <p>Preparation and processing of specimens for electron microscopy using Leica EMTP Tissue Processor (SOP range PEM_S056 to PEM_S057; PEM_S063 to PEM_S072)</p> <p>Sectioning samples Semi-thin and ultrathin sections Leica Ultra cut UC7RT Ultra microtome (SOP PEM_S058; PEM_S072 to PEM_S077)</p>



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<p>HUMAN BODY TISSUE AND FLUIDS (CONTD):</p> <p>Glutareldehyde Fixed Resin Embedded Tissue sections on glass slides prepared as above</p> <p>Fresh Tissue: Muscle</p> <p>Fresh Frozen Tissue: Muscle</p>	<p><u>Histology examination activities in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis (cont'd):</u></p> <p>Ultrastructural Examination and digital electron micrographs Semi-thin and Ultrathin sections to identify and exclude ultrastructural morphological abnormalities for the purpose of diagnosis.</p> <p><u>Neuropathology examination activities in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis:</u></p> <p>Mitochondrial Complexes</p> <p>Mitochondrial Complexes</p> <p>Basophilic and eosinophilic structures</p>	<p>Macroscopic and Microscopic examination:</p> <p>in-house documented procedures based on Electron Microscope equipment manuals and standard methods as specified below.</p> <p>Staining of electron microscope tissue sections: Toluidine Blue Staining Thionin Staining Uranyl Acetate Staining Lead Citrate Staining (SOP : PEM_S058)</p> <p>Light Microscope and FEI Technai G2 electron microscope (SOP PEM_S025 and PEM_S035)</p> <p>Receipt and preparation of the muscle tissue (SOP PMU_S058)</p> <p>Preparation and muscle tissue frozen sectioning using the Leica CM1850 UV Cryostat (SOP: PMU_S001)</p> <p>Cytochrome C Oxidase staining PMU_S010</p> <p>Gomori Trichrome staining PMU_S005</p> <p>Haematoxylin and Eosin staining PMU_S004</p>



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HUMAN BODY TISSUE AND FLUIDS (CONTD):	<u>Neuropathology examination activities in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis:</u>	Preparation and muscle tissue frozen sectioning using the Leica CM1850 UV Cryostat (SOP: PMU_S001)
Fresh Frozen Tissue: Muscle	Demonstration of Lipofushin	Muscle Acid Phosphatase staining PMU_S013
	Demonstration of Lipofushin	Myosin Adenosine Triphosphatase Staining pH 9.4 & pH 4.6 PMU_S012
	MHC	Major Histocompatibility Complex PMU_S055
	NADH	NADH Staining PMU_S009
Fresh Frozen Tissue: Muscle	PAS +ve substances	Periodic Acid – Schiffs (PAS) Staining PMU_S007
	Phosphorylase activity	Phosphorylas staining
	SDH activity	Succinate Dehydrogenase staining
	Lipids	Sudan Black staining
Neuropathological tissue: Formalin fixed tissue processed to paraffin wax (FFPE) Fresh tissue Frozen Tissue		In- house documented immunohistochemistry procedures and manufacturer's instructions using DAKO Autostainer Link 48 Platforms (Dako Envision FLEX+ detection system) SOP PIC_S001
	Dystrophin (C-terminus) protein	Dystrophin (C-terminus)
	Dystrophin (Rod Zone) protein	Dystrophin (Rod Zone)
	Emerin Protein	Emerin
	Skeletal Muscle fast fibres	MHCf
	Skeletal muscle slow fibres	MHCs
	Myoepithelial Cells. Smooth muscle cells.	Myosin Heavy Chain/ smooth muscle



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<p>HUMAN BODY TISSUE AND FLUIDS (CONTD):</p> <p>Slides Prepared in house as above</p> <p>Air Dried Preparations. Body fluids, CSFs</p> <p>Wet fixed Preparations. Body fluids, urine, CSFs, aspirates, washings, brushings, EBUS</p> <p>FNA Air Dried Preparations: breast, thyroid, lymph node</p> <p>Slides Prepared in house as above</p>	<p><u>Neuropathology examination activities in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis:</u></p> <p>Morphological Assessment and interpretation / Diagnosis</p> <p><u>Diagnostic Cytology Examination to assist in clinical Investigation</u></p> <p>Preparation and examination of cellular material to identify or exclude cytological abnormalities</p> <p>Cellularity assessment</p> <p>Morphological Assessment and interpretation / Diagnosis</p>	<p>PAA_S018</p> <p>Macroscopic and Microscopic examination:</p> <p>In house documentation procedure and manufacturer's instructions using the following equipment. SOP Range PCY_S001 to PCY_S035</p> <p>Rotina Centrifuge Shandon Cytospin 4</p> <p>Processing and staining using Papanicolaou, modified Giemsa and H&E</p> <p>Thermos Scientific Linistain staining machine</p> <p>PAA_S018</p>
END		