

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>8191</p> <p>Accredited to ISO 15189:2012</p>	<p>North Bristol NHS Trust</p> <p>Issue No: 002 Issue date: 29 November 2021</p>	
	<p>Department of Neuropathology Pathology Science Building (Phase II) Southmead Hospital Bristol BS10 5NB</p>	<p>Contact: Hannah Barber Tel: +44 (0)117 414 2401 E-Mail: hannah.barber@nbt.nhs.uk Website: www.nbt.nhs.uk</p>
<p>Testing performed at the above address only</p>		

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>Tissue samples, predominantly from the central nervous system,. (Excludes any CNS samples taken for forensic examination)</p>	<p><u>Neuropathology examinations to assist in clinical investigations</u></p>	<p>Documented in house procedures in conjunction with manufacturer's instructions for:</p> <p>Dissection NP-LAB-SOP-003</p> <p>Decalcification NP-LAB-SOP-003, NP-LAB-SOP-075</p> <p>Tissue Processing Thermo Scientific Excelsior AS (biopsy processing) Thermo Scientific Excelsior ES (Post mortem processing) in conjunction with in house documented methods: NP-LAB-SOP-004</p> <p>Embedding Embedding centre TES99 Medite medizintechnik</p> <p>Microtomy Rotary Microtome – Leica RM2235 and Base Sledge Microtome – Leica SM2400 NP-LAB-SOP-005</p>



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HUMAN BODY TISSUE AND FLUIDS (cont'd)	<u>Neuropathology examinations to assist in clinical investigations</u> (cont'd)	Documented in house procedures in conjunction with manufacturer's instructions for:
Formalin Fixed Paraffin Embedded Tissue (FFPE) sections on glass slides	Special tinctorial staining for the demonstration of:	Histochemical Staining using Manual Techniques
	Basophilic and eosinophilic structure	Haematoxylin and Eosin NP-LAB-SOP-042
	Collagen	Haematoxylin Van Gieson NP-LAB-SOP-047
	Connective tissue (reticulin fibres)	Reticulin stain NP-LAB-SOP-044
	Mucopolysaccharides and elastic fibres	Alcian Blue Verhoef's Van Gieson NP-LAB-SOP-063
	Mucins – acid and neutral	Alcian Blue/PAS NP-LAB-SOP-033
	Elastic fibres and mast cell granules	Elastic Van Gieson NP-LAB-SOP-046
	Gram positive and Gram negative organisms	Gram Twort NP-LAB-SOP-036
	Myelin, nissl substance, glial cells	Luxol fast blue/Cresyl violet NP-LAB-SOP-037
	Melanin	Masson Fontana NP-LAB-SOP-056
Muscle, bone, hyaline casts, erythrocytes, fibrin, collagen	Mauritius Scarlet Blue NP-LAB-SOP-038	
Muscle, rbc, fibrin, collagen	Masson Trichrome NP-LAB-SOP-051	



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<p>HUMAN BODY TISSUE AND FLUIDS (cont'd)</p> <p>Formalin Fixed Paraffin Embedded Tissue (FFPE) sections on glass slides (cont'd)</p> <p>Tissue samples, predominantly from the central nervous system on FFPE slides (Formalin fixed paraffin embedded)</p>	<p><u>Neuropathology examinations to assist in clinical investigations</u> (cont'd)</p> <p>Special tinctorial staining for the demonstration of:</p> <p>Nerve fibres</p> <p>Fungi, some bacteria, cerebroside and sphingomyelin, sialomucins and neutral mucins, glycogen, starch, elastin, reticulin, some lipofuscins</p> <p>Ferric iron</p> <p>Astrocytes, myelin, collagen, reticulin</p> <p>Myelin sheaths</p> <p>Amyloid, elastic fibres</p> <p>Fungi</p> <p>Acid fast bacilli</p> <p>Immunohistochemistry of Histopathology samples of neurological origin to demonstrate the following:</p> <p>Corticotrophs in adenohypophysis</p> <p>Lewy Body and Neuropil Marker.</p>	<p>Documented in house procedures in conjunction with manufacturer's instructions for:</p> <p>Histochemical Staining using Manual Techniques</p> <p>Palmgren's method NP-LAB-SOP-053</p> <p>Periodic Acid Schiff and Periodic Acid Schiff/Diastase NP-LAB-SOP-035 & NP-LAB-SOP-034</p> <p>Perl's Prussian blue NP-LAB-SOP-039</p> <p>Phosphotungstic acid haematoxylin (PTAH) NP-LAB-SOP-048</p> <p>Solochrome Cyanine NP-LAB-SOP-040</p> <p>Sirius Red NP-LAB-SOP-049</p> <p>Tome (Grocott) method NP-LAB-SOP-045</p> <p>Ziehl-Neelsen (ZN) NP-LAB-SOP-041</p> <p>Documented in house procedures in conjunction with manufacturer's instructions for:</p> <p>Immunocytochemistry Automated using Ventana Benchmark Ultra NP-LAB-SOP-007 incorporating the following antibodies:</p> <p>Adrenocorticotrophic Hormone</p> <p>Alpha synuclein</p>



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<p>HUMAN BODY TISSUE AND FLUIDS (cont'd)</p> <p>Tissue samples, predominantly from the central nervous system on FFPE slides (Formalin fixed paraffin embedded) (cont'd)</p>	<p><u>Neuropathology examinations to assist in clinical investigations</u> (cont'd)</p> <p>Immunohistochemistry of Histopathology samples of neurological origin to demonstrate the following:</p> <p>AT8 Clone of TAU</p> <p>Anaplastic oligo and anaplastic astrocytomas</p> <p>Atypical teratoid/rhabdoid tumours.</p> <p>10 amino acid sequence from amyloid beta protein.</p> <p>Labels senile plaques, extraneuronal tangles</p> <p>Reacts with cytokeratin 52 kDa (Moll #8) & weakly with cytokeratin 43 kDa (Moll #7). Not Moll #18</p> <p>T cells</p> <p>Plasma cells</p> <p>B-Cell Marker</p> <p>Endothelial cell marker.</p> <p>Endothelial cells of blood vessels.</p> <p>Germinoma marker</p> <p>Pan T/B cell marker</p> <p>Monocytes and macrophages</p> <p>Neuroendocrine marker for tumours</p> <p>54kD cytokeratin.</p>	<p>Documented in house procedures in conjunction with manufacturer's instructions for: Immunocytochemistry Automated using Ventana Benchmark Ultra NP-LAB-SOP-007 incorporating the following antibodies:</p> <p>AT8(PHF-TAU AT8)</p> <p>ATRX</p> <p>BAF 47</p> <p>Beta amyloid protein 4G8</p> <p>Beta amyloid precursor protein</p> <p>CAM 5.2</p> <p>CD3</p> <p>CD138</p> <p>CD20 (L26)</p> <p>CD31</p> <p>CD34 (endothelial cell)</p> <p>CD117</p> <p>CD45 (Leucocyte common ab)</p> <p>CD68 (macrophage KP1)</p> <p>Chromogranin A</p> <p>Cytokeratin 7</p>



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<p>HUMAN BODY TISSUE AND FLUIDS (cont'd)</p> <p>Tissue samples, predominantly from the central nervous system on FFPE slides (Formalin fixed paraffin embedded) (cont'd)</p>	<p><u>Neuropathology examinations to assist in clinical investigations</u> (cont'd)</p> <p>Immunohistochemistry of Histopathology samples of neurological origin to demonstrate the following:</p> <p>46kD intermediate filament protein.</p> <p>Rhabdomyosarcoma, leiomyoma, leiomyosarcoma and mesotheliomas. Desminopathies in muscle</p> <p>Epithelia marker (secretory). Clone E29</p> <p>Beta sub-unit of FSH,</p> <p>Astrocytes and some ependymal cells</p> <p>Somatotroph cells</p> <p>Histone H3 with K27M mutation</p> <p>Melanosome/Melanoma</p> <p>Herpes Simplex Virus 1</p> <p>Herpes Simplex Virus 2</p> <p>Placenta trophoblasts, hydatiform mole, choriocarcinoma.</p> <p>Astrocytoma and oligodendroglioma tumour cell marker</p> <p>Kappa +ve plasma cells</p> <p>Lamda +ve plasma cells</p>	<p>Documented in house procedures in conjunction with manufacturer's instructions for: Immunocytochemistry Automated using Ventana Benchmark Ultra NP-LAB-SOP-007 incorporating the following antibodies:</p> <p>Cytokeratin 20</p> <p>Desmin</p> <p>Epithelial membrane antigen</p> <p>Follicle stimulating hormone</p> <p>Glial fibrillary acidic protein</p> <p>Growth hormone</p> <p>Histone H3, K27M mutant</p> <p>HMB45 (melanoma)</p> <p>Herpes Simplex Virus 1</p> <p>Herpes Simplex Virus 2</p> <p>Human chorionic gonadotrophin</p> <p>IDH1 R132H</p> <p>Kappa light chains</p> <p>Lamda light chains</p>



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<p>HUMAN BODY TISSUE AND FLUIDS (cont'd)</p> <p>Tissue samples, predominantly from the central nervous system on FFPE slides (Formalin fixed paraffin embedded) (cont'd)</p>	<p><u>Neuropathology examinations to assist in clinical investigations</u> (cont'd)</p> <p>Immunohistochemistry of Histopathology samples of neurological origin to demonstrate the following:</p> <p>Ki-67. Labels proliferating cells,</p> <p>Myelin Proteolipid Protein</p> <p>For Type I fibres</p> <p>Neuronal specific nuclear protein-</p> <p>200 & 70 KDA (Phosphorylated)</p> <p>Neurones and neuroendocrine system.</p> <p>Oligodendroglioma marker, nuclear staining.</p> <p>Tumour suppressor gene</p> <p>Multimeric signal protein</p> <p>Pituitary hormone</p> <p>Glial & epenymal cells, & Schwann cells of PNS</p> <p>Simian Vacuolating Virus 40</p> <p>Neurons & neuroendocrine cells.</p>	<p>Documented in house procedures in conjunction with manufacturer's instructions for:</p> <p>Immunocytochemistry Automated using Ventana Benchmark Ultra NP-LAB-SOP-007 incorporating the following antibodies:</p> <p>MIB1</p> <p>Myelin PLP</p> <p>Myosin slow (Type I)</p> <p>Neu N</p> <p>Neurofilament (Phos Dako)</p> <p>Neuron specific enolase</p> <p>Oligodendrocyte transcription factor-2</p> <p>P53</p> <p>P62</p> <p>Prolactin</p> <p>S100</p> <p>Simian Vacuolating Virus 40</p> <p>Synaptophysin</p>



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<p>HUMAN BODY TISSUE AND FLUIDS (cont'd)</p> <p>Tissue samples, predominantly from the central nervous system on FFPE slides (Formalin fixed paraffin embedded) (cont'd)</p>	<p><u>Neuropathology examinations to assist in clinical investigations</u> (cont'd)</p> <p>Immunohistochemistry of Histopathology samples of neurological origin to demonstrate the following:</p> <p>Ubiquitin-positive and tau-negative inclusions</p> <p>Beta sub-unit of TSH & thyrotropic cells</p> <p>Toxoplasma Gondii</p> <p>Mesenchymal origin.</p> <p>Varicellar Zoster Virus</p>	<p>Documented in house procedures in conjunction with manufacturer's instructions for:</p> <p>Immunocytochemistry Automated using Ventana Benchmark Ultra NP-LAB-SOP-007 incorporating the following antibodies:</p> <p>TDP-53</p> <p>Thyroid stimulating hormone</p> <p>Toxoplasma Gondii</p> <p>Vimentin</p> <p>Varicella Zoster Virus</p>



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<p>HUMAN BODY TISSUE AND FLUIDS (cont'd)</p> <p>Muscle biopsy on FFPE slides (Formalin fixed paraffin embedded)</p>	<p><u>Neuropathology examinations to assist in clinical investigations</u> (cont'd)</p> <p>Histological examination of muscle and nerve biopsy material to assist in clinical investigations</p> <p>Demonstration of:</p> <p>Basophilic and eosinophilic structures</p> <p>Collagen</p> <p>Amyloid, elastic fibres</p>	<p>Documented in house procedures in conjunction with manufacturer's instructions for: Specimen Preparation NP-LAB-SOP-013</p> <p>Tissue Processing: Thermo Scientific Excelsior AS (biopsy processing) Thermo Scientific Excelsior ES (Post mortem processing) NP-LAB-SOP-004 Embedding: Embedding centre TES99 Medite medizintechnik</p> <p>Microtomy: Rotary Microtome – Leica RM2235 Base Sledge Microtome – Leica SM2400 NP-LAB-SOP-005</p> <p>Histochemical Staining using Manual Techniques</p> <p>Haematoxylin and Eosin NP-LAB-SOP-042</p> <p>Haematoxylin Van Gieson NP-LAB-SOP-047</p> <p>Sirius Red NP-LAB-SOP-049</p> <p>Immunocytochemistry</p> <p>Automated using Ventana Benchmark Ultra NP-LAB-SOP-007</p> <p>Clinical interpretation of stained slide: NP/MGT/SOP/004 NP/MGT/SOP/005 NP/MGT/SOP/007</p>



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HUMAN BODY TISSUE AND FLUIDS (cont'd)	<u>Neuropathology examinations to assist in clinical investigations</u> (cont'd)	Documented in house procedures in conjunction with manufacturer's instructions for:
Muscle biopsy	Examination of frozen tissues in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis	Specimen Preparation NP-LAB-SOP-013
	Demonstration of:	Cryotomy NP-LAB-SOP-012
	Lysosomes	Cryostat – Leica CM3050S
	ATPase activity	Histochemical Staining Using Manual Techniques
	Cytochrome Oxidase activity	Acid Phosphatase Naphthol AS-BI Phosphate NP-LAB-MET-055
	Mitochondrial myopathy	ATPase NP-LAB-MET-061
	Mitochondria/ Ragged Red Fibres	Cytochrome Oxidase activity NP-LAB-MET-062
	Basophilic and eosinophilic structures	Cytochrome Oxidase/ Succinic Dehydrogenase NP-LAB-MET-063
	Collagen	Gomori Trichrome NP-LAB-MET-068
	ATPase activity	Haematoxylin and Eosin NP-LAB-MET-016
	Myodenylate Deaminase activity	Haematoxylin Van Gieson NP-LAB-MET-065
	NADH-Tetrazolium activity	ATPase NP-LAB-MET-071
		Myodenylate Deaminase NP-LAB-MET-058
		NADH-Tetrazolium Reductase NP-LAB-MET-074



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HUMAN BODY TISSUE AND FLUIDS (cont'd)	<u>Neuropathology examinations to assist in clinical investigations</u> (cont'd)	In house documented methods and manufacturer's instructions
Muscle biopsy (cont'd)	Demonstration of: (cont'd)	Histochemical Staining Using Manual Techniques (cont'd)
	Lipids	Oil Red O NP-LAB-MET-075
	Glycogen	Periodic Acid Schiffs & Periodic Acid Schiffs/ Diastase NP-LAB-MET-078/64
	Phosphofructokinase activity	Phosphofructokinase NP-LAB-MET-091
	Phosphorylase activity	Phosphorylase NP-LAB-MET-080
	SDH activity	Succinic Dehydrogenase NP-LAB-MET-083



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HUMAN BODY TISSUE AND FLUIDS (cont'd)	<u>Neuropathology examinations to assist in clinical investigations</u> (cont'd)	In house documented methods and manufacturer's instructions
Nerve biopsy on FFPE slides (Formalin fixed paraffin embedded)	Examination of tissues in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis	Documented in house procedures in conjunction with manufacturer's instructions for: Specimen Preparation NP-LAB-SOP-013 Tissue Processing: Thermo Scientific Excelsior AS (biopsy processing) Thermo Scientific Excelsior ES (Post mortem processing) NP-LAB-SOP-004 Embedding: Embedding centre TES99 Medite medizintechnik Microtomy: Rotary Microtome – Leica RM2235 Base Sledge Microtome – Leica SM2400 NP-LAB-SOP-005
	Demonstration of:	Histochemical Staining Using Manual Techniques
	Basophilic and eosinophilic structures	Haematoxylin and Eosin NP-LAB-SOP-042
	Collagen	Haematoxylin Van Gieson NP-LAB-SOP-047
	Amyloid, elastic fibres	Sirius Red NP-LAB-SOP-049
	Ferric iron	Perl's Prussian blue NP-LAB-SOP-039



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Nerve biopsy	Examination of frozen tissues in order to identify or exclude morphological and cytological abnormalities for the purpose of diagnosis	Documented in house procedures in conjunction with manufacturer's instructions for: Specimen Preparation NP-LAB-SOP-013
	Demonstration of:	Cryotomy NP-LAB-SOP-012
	Basophilic and eosinophilic structures	Cryostat – Leica CM3050S
	Collagen	Histochemical Staining Using Manual Techniques
	Lipids	Haematoxylin and Eosin NP-LAB-MET-016
	Fungi, some bacteria, cerebroside and sphingomyelin, sialomucins and neutral mucins, glycogen, starch, elastin, reticulin, some lipofuscins	Haematoxylin Van Gieson NP-LAB-MET-065
	Myelin sheaths	Oil Red O NP-LAB-MET-075
		Periodic Acid Schiff and Periodic Acid Schiff/Diastase NP-LAB-SOP-035 & NP-LAB-SOP-034
		Solochrome Cyanine NP-LAB-SOP-040



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Nerve Biopsy	Immunohistochemistry of histopathology samples of neurological origin to detect the following:	Manual immunohistochemistry using Vectastain Elite ABC and Biogenex Polymer HRP methods
	B-cell marker	NP-LAB-SOP-007 NP-LAB-MET-010 NP-LAB-MET-015 Incorporating the following antibodies: CD20 (L26)
	Pan T/B cell marker	CD45 (leucocyte common ab)
	Monocytes and macrophages	CD68 (macrophage KP1)
	Plasma cells	CD138
	Proliferating cells	MIB1 (Ki-67)
	Antibody to phosphorylated and unphosphorylated neurofilament, 200 & 70 KDA (phosphorylated)	Neurofilament (pan) Neurofilament (phosphorylated)
Fresh central nervous system tissue samples.	T-cell marker	UCLH1
	Intra-operative smears or frozen sectioning for the detection of abnormal cells	Supported by: NP/LAB/SOP/010; NP/LAB/SOP/012 Cryostat – Leica CM3050S Stains – NP-LAB-MET-088; NP-LAB-MET-089; NP-LAB-MET-016
Slides prepared as above	Morphological assessment and interpretation/diagnosis	NP/MGT/SOP/004 NP/MGT/SOP/005 NP/MGT/SOP/007
END		