

LIST OF EXTERNAL TEST

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
1	17-Hydroxyprogesterone (17OHP)	Blood	Plain gel tube	5 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6/ PER-PAT 301	Endocrine	IMR/ HOSPITAL PUTRAJAYA *will be start in January 2022/ circular to follow	
2	28 Common Translocation for Leukemia (Bone marrow molecular test for hematolmalignancy)	Bone marrow/ Blood	EDTA Sample must be accompanied with unstained bone marrow slide	2.5-5 ml	Molecular Analysis for Leukemia	Hematology unit	IMR	For acute leukemia case only
3	5-Hydroxy-Indole-Acetic Acid (5-HIAA) for Carcinoid Tumor, 24 Hour Urine	24 Hour Urine	24 Hour Urine Container with 10 mls of 25% HCL	Minimum Volume : 750 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	
4	a1- Acid Glycoprotein	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL AMPANG	
5	a2- Macroglobulin	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL AMPANG	
6	Acanthamoeba spp. PCR	Corneal scraping, Contact lens, Contact lens suspension, Cerebrospinal fluid	Sterile container	NA	PER-PAT 301	Serology	Parasitology unit, IMR	
7	Acanthamoeba spp./Naegleria spp microscopy & culture	Corneal scraping, Contact lens, Contact lens suspension, Cerebrospinal fluid	Sterile container	NA	PER-PAT 301	Serology	Parasitology unit, IMR	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
8	Acid Alpha-Glucosidase (POMPE)	Dried Blood Spot	Special filter paper eg: PerkinElmer 226	4 circles of dried blood spot	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	
9	Acid or Chlorosive	Blood	Sodium Fluoride tube	5 ml	Kimia 15- Pin.3/2020 (pindaan 2020)	Makmal Kimia	JABATAN KIMIA, JB	
10	Acute Flaccid Paralysis workout	Fresh stool	Sterile container	5g	Acute Flaccid Paralysis Case Investigation Form	Serology	Virology unit, IMR	
11	Acute Protein C Resistance (APCR)	Blood	Sodium Citrate	>12 y/o :12-15 ml 1-12 y/o: 10 ml <1 y/o: 5 ml	PER-PAT 301	Hematology unit	Pusat Darah Negara	(Must follow Guideline Thrombophilia Testing by PDN)
12	ADAMTS 13 study	Blood	Sodium Citrate	1.8ml-2.7 ml according to brand tube (3 tubes)	Hospital Ampang Special Hematology Lab Requisition form	Hematology unit	Hospital Ampang	
13	Adenocorticoid Hormone (ACTH)	Blood	K2 EDTA	5 ml	PERPAT 301	Chemical Pathology	HKL	Send in cold box with ice
14	Adenylosuccinate Lyase (ADSL)	Random Urine	Universal container	5 ml	PERPAT 301	IEM Lab Paediatric Institute (Chemical Pathology)	HKL	
15	AFP			5X UNSTAINED SLIDES	IHC FORM	PATOLOGI ANATOMI HKL	HKL	
16	Alagille Syndrome (JAG-1) - Deletion/Duplication	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
17	Alcohol	Blood	Sodium Fluoride tube	5 ml	Kimia 15-Pin.3/2020 (pindaan 2020)	Makmal Kimia	JABATAN KIMIA, JB	
18	Aldosterone	Blood	K2 EDTA	5 ml	PERPAT 301	IEM Lab Paediatric Institute (Chemical Pathology)	HOSPITAL PUTRAJAYA	Please follow protocol
19	ALK(IHC)			5X UNSTAINED SLIDES	IHC FORM	SITOGNETIK HOSPITAL WANITA DAN KANAK-KANAK	HKL	
20	Allergy test (Specific IgE)	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Allergy unit, IMR	
21	Amikacin	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HSAJB	
22	Amino Acids	Blood	Plain gel tube	5 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	
23	Amino Acids	CSF	Bijou Bottle	1 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
24	Amino Acids	Urine	Universal Container	20 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	By Consultation only
25	Ammonia	Blood	K2 EDTA	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL MELAKA	By appointment only, send in cold box with ice
26	Amoebiasis Serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Parasitology unit, IMR	
27	Amphetamine Type Stimulants (ATS), confirmation	Urine	Sterile Container	30 ml	Borang Permintaan Ujian Pengesanan Dadah Dalam Air kencing UPD-1 (pindaan 2020)	Chemical Pathology	HSAJB	
28	Angelman Syndrome (SNRPN)	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	
29	Anti B2-Glycoprotein 1 for Anti Phospholipid Syndrome investigation	Blood	Sodium Citrate	>12 y/o :12-15 ml 1-12 y/o: 10 ml <1 y/o: 5 ml	PER-PAT 301	Hematology unit	Pusat Darah Negara	(Must follow Guideline Thrombophilia Testing by PDN)
30	Anti-Cardiolipin Antibody for Anti Phospholipid Syndrome investigation	Blood	Sodium Citrate	>12 y/o :12-15 ml 1-12 y/o: 10 ml <1 y/o: 5 ml	PER-PAT 301	Hematology unit	Pusat Darah Negara	(Must follow Guideline Thrombophilia Testing by PDN)

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
31	Anti-Intrinsic Factor Antibody	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Microbiology unit, Hospital Selayang	
32	Anti-Mullerian Hormone	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	IMR	Request only by Gynae specialist
33	Antibody identification	Blood	K2 EDTA & Plain gel tube	10 ml	PER PAT301 with or without GXM	Transfusion Medicine Unit	HSAJB / PDN	
34	Anti-Thyroglobulin (Anti Tg)	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HSAJB	
35	Anti-Thyroid Peroxidase (Anti TPO)	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HSAJB	
36	Anti-Thyroid Receptor Antibody (Trab)	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HKL	
37	Anti-Acetylcholine Receptor Antibody (ACR)	Blood	Plain gel tube	5.0 ml	AUTOIMMUNE REQUEST FORM	Serology	Autoimmune unit, IMR	

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38	Anti-Aquaporin 4 (AQ4)	Blood	Plain gel tube	5.0 ml	AUTOIMMUNE REQUEST FORM	Serology	Autoimmune unit, IMR	*CSF sample is accepted
39	Anti-Beta 2 Glycoprotein 1 (B2GP1)	Blood	Plain gel tube	5.0 ml	PERPAT 301	Serology	HSAJB	
40	Anti-Cardiolipin Antibody IgM & IgG (ACL)	Blood	Plain gel tube	5.0 ml	PERPAT 301	Serology	HSAJB	
41	Anti-Cyclic Citrullinated Peptide (CCP/ACPA)	Blood	Plain gel tube	5.0 ml	PERPAT 301	Serology	HSAJB	
42	Anti-Ganglioside Antibodies (GA) Panel: Anti-GM1, Anti-GM2, Anti-GM3, Anti-GM4, Anti-GD1a, Anti-GD1b, Anti-GD2, Anti-GD3, Anti-GT 1a, Anti-GT 1b, Anti-GQ1b	Blood	Plain gel tube	5.0 ml	AUTOIMMUNE REQUEST FORM	Serology	Autoimmune unit, IMR	
43	Anti-Glomerular Basement Membrane (GBM)	Blood	Plain gel tube	5.0 ml	AUTOIMMUNE REQUEST FORM	Serology	Autoimmune unit, IMR	
44	Anti-Neutrophil Cytoplasmic Antibodies (ANCA) Panel: P-ANCA, C-ANCA, anti-MPO, anti-PR3	Blood	Plain gel tube	5.0 ml	PERPAT 301	Serology	HSAJB	

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45	Anti-neutrophil cytoplasmic antibodies (ANCA): P-ANCA, C-ANCA	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
46	Anti-N-Methyl-D-Aspartate Receptor (NMDAR)	Blood	Plain gel tube	5.0 ml	AUTOIMMUNE REQUEST FORM	Serology	Autoimmune unit, IMR	*CSF sample is accepted
47	Anti-Thrombin Activity	Blood	Sodium Citrate	>12 y/o :12-15 ml 1-12 y/o: 10 ml <1 y/o: 5 ml	PER-PAT 301	Hematology unit	Pusat Darah Negara	(Must follow Guideline Thrombophilia Testing by PDN)
48	Anti Xa	Blood	Sodium citrate	1.8-2.7 ml according to brand of tube(2 tubes)	Hospital Ampang Special Hematology Lab Requisition.	Hematology unit	Hospital Ampang	Separate plasma cells as soon as possible(double spin).Store frozen at -40°C and transport frozen plasma on dried ice.
49	Argininosuccinic Acid, Urine (ASA)	Urine	Sterile Container	20 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	
50	Aspergillus Galactomannan Serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Microbiology unit, Hospital Sungai Buloh	
51	BCR/ABL (For suspected CML only)	Blood/Bone marrow (Before starting therapy)	EDTA	PB: 5.0 ml, BM:1-2 ml	Hospital Ampang Special Hematology Lab Requisition.	Hematology unit	Hospital Ampang	
52	BCR-ABL-1 Quantitation	Bone marrow (on follow up)	EDTA	2X 2.0ml	PER-PAT 301	Hematology unit	Hospital Sultanah Aminah	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
53	Biogenic Amines, CSF - Neurotransmitter	CSF	Sterile Bijou Bottle	1 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	Protect from light
54	Biogenic Amines, Urine - Neurotransmitter	Urine	Sterile Container	30 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	Protect from light
55	Biotinidase Enzyme Activity	Dried Blood Spot	Special filter paper.eg: PerkinElmer 226	4 circles of dried blood spot	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	
56	BK Virus PCR	Blood, CSF	Blood: EDTA tube, CSF: Bijou bottle	Blood: 5 ml, CSF: 1ml	PER-PAT 301	Serology	Microbiology unit, Hospital Sungai Buloh	
57	Chromosomal Breakage Study	Blood	Lithium Heparin	3-5 ml Storage: 2-8 degrees	Cytogenetic request form for peripheral blood sample HKL/GE/TPM /N-1-(1)	Hematology unit	Hospital Tunku Azizah, HKL	
58	Bone marrow cytogenetic	Bone marrow (First aspirate)	Sodium Heparin	3-5 ml Storage: 2-8 degrees	Borang Genetic IMR Test done at Cytogenetic Lab HTA	Hematology unit	Hospital Tunku Azizah, HKL	To get grant from Clinical Hematologist HSAJB (Adult case), Paediatric Hematologist HSIJB (Paediatric case)
59	Bone marrow for BCR/ABL1 Kinase Domain Mutation Analysis (Sequencing)	Bone marrow/ Blood	EDTA Sample must be accompanied with unstained bone marrow slide (if sample BM)	2.5-5 ml	Molecular Analysis for Leukemia	Hematology unit	IMR	Detailed treatment history need to be provided

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
60	Bone marrow immunophenotyping	Bone Marrow	EDTA	2 x 2.0ml	PER-PAT 301	Hematology unit	Hospital Tunku Azizah, HKL	Case by case basis, decision made by lab hematologist HPSF
61	Bone marrow/ Peripheral Blood for immunophenotyping	Blood/ bone marrow	EDTA	3 tube- BM 3 tube- PB BM-1 direct smear/1 MGG stained smear PB- 1 Leishman stained slide	PER-PAT 301	Hematology unit	Hospital Sultanah Aminah	
62	Bordetella pertussis PCR	Nasopharyngeal aspirate	Sterile container	2.0 ml	IMR Bacteriology Request Form	Serology	Bacteriology unit, IMR	
63	Brucella antibody	Blood	Plain gel tube	5.0 ml	Brucellosis Laboratory Request Form	Serology	Bacteriology unit, IMR	
64	Brucella PCR	Blood	EDTA tube	3.0 ml	Brucellosis Laboratory Request Form	Serology	Bacteriology unit, IMR	
65	Bruton tyrosine kinase (BTK) Protein detection	Fresh blood in room temperature (without ice)	EDTA tube	2.0 ml	Primary Immunodeficiency (PID) Request Form	Serology	PID unit, IMR	By appointment only
66	C- Peptide	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HKL	

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67	Ceruloplasmin	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HKL	
68	Cancer Antigen 15.3 (Ca 15.3)	Blood	Plain gel tube	5 ml	PERPAT 301	Drug & Toxicology	HKL	Counter Sign Specialist required
69	Cancer Antigen 19.9 (Ca 19.9)	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HSAJB	Counter Sign Specialist required
70	Carbon Monoxide	Blood	Sodium Flouride tube	5 ml	Kimia 15- Pin.3/2020 (pindaan 2020)	Makmal Kimia	JABATAN KIMIA, JB	
71	Carnitine Total & Free	Blood	Plain gel tube	5 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	
72	Carnitine, 24 Hour Urine	24 Hour Urine	24 Hour Urine Container	20 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	By Consultation only
73	CBF β -MYH11A [Monitoring]	Bone marrow (Follow up)	EDTA	1-2 ml	Hospital Ampang Special Hematology Lab Requisition.	Hematology unit	Hospital Ampang	

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74	CD4/ CD8	Blood	EDTA	2 x2.5 ml	PER-PAT 301	Hematology unit	Hospital Sultanah Aminah	Borang permohonan perlu ditulis seperti berikut: a) Tarikh akhir CD4/CD8 b) Tarikh Pengambilan spesimen c) Tarikh rawatan HAART d) Perlu fresh sampel, sila hantar sampel ke makmal pada hari Ahad sebelum pukul 4 petang. e) Perlu membuat temujanji melalui MOPC HPSF Muar.
75	Chikungunya PCR	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Virology unit, IMR	
76	Chlamydia serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
77	Chlamydia trachomatis Immunofluorescent Test	Genital discharge; eye discharge	Smear	NA	PER-PAT 301	Serology	HSAJB	
78	Cholinesterase	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HSAJB	
79	Chromosomal microarray for Genetic Disease	Blood	EDTA Parents sample required	10 ml	Chromosomal microarray Analysis for clinical genetic syndromes	Hematology unit	IMR	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
80	CMV			5X UNSTAINED SLIDES	IHC FORM	PATOLOGI ANATOMI HKL	HKL	
81	Coeliac Antibodies Panel: Anti-Endomysium, Anti Gliadin, Anti Tissue Transglutaminase	Blood	Plain gel tube	5.0 ml	AUTOIMMUNE REQUEST FORM	Serology	Autoimmune unit, IMR	
82	Copper	Blood	Plain gel tube	5 ml	PERPAT 301	Toxicology	IMR	
83	Copper	Urine	Universal container	Random	PERPAT 301	Toxicology	IMR	
84	Cortisol, 24 Hour	24 Hour Urine	24 Hour Urine Container	Minimum Volume : 750 ml	PERPAT 301	Chemical Pathology	HOSPITAL PUTRAJAYA	
85	Corynebacterium Diphtheriae Toxin Detection & PCR	Throat swab	Amies charcoal	NA	MKAK Laboratory Request FoRM MKAK-BPU-U01	Serology	MKAK Sungai Buloh	For contact cases only
86	COVID-19 Conventional PCR	Combined OPS/NPS, ETT aspirate	Swab: VTM; ETT aspirate: Sterile container	ETT aspirate: 2.0 - 5.0 ml	PER-PAT 301	Serology	HSAJB	

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87	COVID-19 PCR	Combined NPS & OPS	VTM	NA	PER-PAT 301	Serology	MKAJB	For contact cases from public only
88	Creatine & Guanidinoacetic Acid	Urine	Sterile Container	20 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	
89	Creatine & Guanidinoacetic Acid	Dried Blood Spot	Special filter paper.eg: PerkinElmer 226	4 circles of dried blood spot	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	
90	Creatine & Guanidinoacetic Acid	Blood	Plain gel tube	5 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	
91	Congenital disorder cytogenetic study	Peripheral blood	Lithium heparin	3-5 ml X 2 tube Storage: 2-8 degrees	Genetic Lab	Hematology unit	Hospital Tunku Azizah, HKL	Varies depending on test. Kindly contact Genetic lab for further information
92	Cryoglobulin	Blood	-	-	-	Chemical Pathology	HOSPITAL AMPANG	By appointment only, Sample will be taken in Hosp Ampang
93	Cryptococcal antigen	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
94	CSF & Serum Oligoclonal Band	Blood & CSF	Plain gel tube & Bijou Bottle	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL AMPANG	CSF must paired with blood sample
95	CSF for VDRL	CSF	Bijou bottle	1.0 ml	PER-PAT 301	Serology	Microbiology unit, Hospital Sungai Buloh	
96	Cyclosporin	Blood	Plain tube without gel	5 ml	PERPAT 301	Chemical Pathology	HSAJB	
97	Cystine	Random Urine	Sterile Container	20 ml	PERPAT 301	IEM Lab Paediatric Institute (Chemical Pathology)	HKL	By Appointment only, Protect from light
98	Cystine & Homocystine, Urine	Urine	Universal Container	20 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	
99	Cytokine (IL-6) Test	Blood	Plain gel tube	5.0 ml	AUTOIMMUNE REQUEST FORM	Serology	Autoimmune unit, IMR	By appointment only
100	Cytomegalovirus (CMV) PCR	Blood, CSF	Blood: EDTA tube, CSF: Bijou bottle	Blood: 5 ml, CSF: 1ml	PER-PAT 301	Serology	Microbiology unit, Hospital Sungai Buloh	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
101	Cytomegalovirus (CMV) serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
102	Dehydroepiandrosterone (DHEAS)	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HKL	
103	Delta-ALA	Urine	Sterile Container	20 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	Protect from light
104	Delta-Amino Levulinic Acids	Urine	Universal Container	20 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	
105	Dengue PCR	CSF	Bijou bottle	1.0 ml	Laboratory Request Form For Dengue And Flavivirus	Serology	MKAK Sungai Buloh	Only for severe dengue cases and ICU patient
106	Dengue PCR	Blood, CSF	Blood: Plain gel tube, CSF: Bijou bottle	Blood: 5 ml; CSF: 1ml	PER-PAT 301	Serology	Virology unit, IMR	
107	Dengue PCR	Blood	Plain gel tube	5.0 ml	Laboratory Request Form For Dengue And Flavivirus	Serology	MKAJB	Only for severe dengue cases and ICU patient

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
108	Dihydrorhodamine test (DHR)	Fresh blood in room temperature (without ice)	Lithium heparin tube	2.0 ml	Primary Immunodeficiency (PID) Request Form	Serology	PID unit, IMR	By appointment only
109	DNA Analysis for Beta Globin Gene/Thalassemia syndromes and hemoglobinopathies	Blood	EDTA	Adult: 2.5ml Infant: 0.5ml	DNA analysis for thalassemia syndromes and hemoglobinopathies	Hematology unit	IMR	Paediatric sample: Index and parents blood is required. All request form must be accompanied with latest (within 3 months) FBC and detailed Hb analysis result
110	DNA Analysis (Alpha Thalassemia)	Blood	EDTA	Adult: 2.5ml Paediatric: 0.5 ml	DNA analysis for thalassemia syndrome & hemoglobinopathies	Hematology unit	HKL	
111	DNA Extraction on storage	Blood	EDTA	2 x 2.5ml	Cytogenetic request form for peripheral blood sample HKL/GE/TPM /N-1-(1)	Hematology unit	Hospital Tunku Azizah	
112	Drug Of Abuse	Blood	Sodium Fluoride tube	5 ml	Kimia 15-Pin.3/2020 (pindaan 2020)	Makmal Kimia	JABATAN KIMIA, JB	
113	Ebstein Barr Virus (EBV) PCR	Blood, CSF	Blood: EDTA tube, CSF: Bijou bottle	Blood: 5 ml, CSF: 1ml	PER-PAT 301	Serology	Microbiology unit, Hospital Sungai Buloh	

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114	EGFR			5X UNSTAINED SLIDES	EGFR/KRAS FORM	MOLECULAR GENETIC LAB	HKL	
115	EGFR test	Cell block	NA	NA	EGFR form	Cytopathology	Hospital Tunku Azizah (Hospital Wanita & Kanak-Kanak Kuala Lumpur)	
116	Enterovirus PCR for HFMD	Rectal swab/mouth ulcer swab/ vesicle swab/ fresh stool	Swabs: VTM, Stool: Sterile container	Stool: 5g	Borang Permohonan Ujian HFMD	Serology	MKAJB	Only send 1 type of sample based on clinical priority
117	Epstein Barr Virus (EBV) serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
118	Everolimus	Blood	K2 EDTA	5 ml	PERPAT 301	Drug & Toxicology	HKL	
119	Extractable nuclear antigen (ENA)	Blood	Blood	5.0 ml	PER-PAT 301	Serology	HSAJB	For ANA positive (speckled pattern only)
120	Extractable Nuclear Antigen (ENA) antibodies Panel: ds-DNA, nucleosome, histone, SmD1, PCNA, PO(RPP), SSA/R0-60, SSA/Ro 52, SSB/La, CENP B, Scl 70, U1-snRNP, AMA M2, Jo-1, PM Scl, Mi-2, Ku)	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	

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121	Factor Inhibitor Assay	Blood	Sodium Citrate	1.8 ml-2.7 ml According to brand of tubes (3 tubes)	PER-PAT 301	Hematology unit	Hospital Sultanah Aminah	(Must write date and time sample taken/ Transfusion date)
122	Factor IX	Blood	Sodium Citrate	1.8 ml-2.7 ml According to brand of tubes (2 tubes)	PER-PAT 301	Hematology unit	Hospital Sultanah Aminah	(Must write date and time sample taken/ Transfusion date)
123	Factor VIII	Blood	Sodium Citrate	1.8 ml-2.7 ml According to brand of tubes (2 tubes)	PER-PAT 301	Hematology unit	Hospital Sultanah Aminah	(Must write date and time sample taken/ Transfusion date)
124	Filariasis PCR	Blood	EDTA tube	2.5 ml	PER-PAT 301	Serology	Parasitology unit, IMR	
125	Filariasis Serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Parasitology unit, IMR	
126	Floating Harbor Syndrome (SRCAP)- Hotspots	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	
127	FLT3-ITD (AML- diagnosis and follow up)	Blood or Bone marrow	EDTA	PB: 5.0 ml, BM:1-2 ml	Hospital Ampang Special Hematology Lab Requisition.	Hematology unit	Hospital Ampang	

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128	Free Light Chain Quantitation	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	Hospital Ampang	
129	Fructosamine	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	Hospital Ampang	
130	Galactosemia Screening	Dried Blood Spot	Special filter paper eg: PerkinElmer 226	4 circles of dried blood spot	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	
131	GATA3			5X UNSTAINED SLIDES		Histopathology	HSAJB	
132	Genetic Disorder -Duchenne Muscular Dystrophy -MECP2 Gene	Blood	EDTA	3-5 ml (5 tubes)	Cytogenetic request form for peripheral blood sample HKL/GE/TPM /N-1-(1)	Hematology unit	Hospital Tunku Azizah,HKL	Varies depending on test. Kindly contact Genetic lab for further information
133	G6PD Assay	Blood	EDTA	3-5 ml (adult) 500uL (pediatric)	PER-PAT 301	Hematology unit	Hospital Melaka	Call hematology lab HPSF for detail information
134	GCDFP-15			5X UNSTAINED SLIDES		Histopathology	HSAJB	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
135	Growth Hormone (Somatotrophin)	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL PUTRAJAYA	
136	H pylori identification and sensitivity (GASTRIC BIOPSY)	Gastric biopsy	Sterile container	NA	PER-PAT 301	Serology	HSAJB	
137	Factor assay other than Factor VIII and Factor IX	Blood	Sodium Citrate	Adults: 10ml (4 tubes) Children (below 1 y/o): 5ml (2 tubes)	PER-PAT 301	Hematology unit	Pusat Darah Negara	
138	Haptoglobin	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL AMPANG	
139	HBe Ag/Anti Hbe/Anti-HBc total/Anti-HBc IgM	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
140	HbsAg confirmatory Test (ELISA)	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
141	HCV Ag	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
142	HCV Viral load	Blood	3 EDTA tubes	15.0 ml	PER-PAT 301	Serology	HSAJB	
143	Helminth microscopy & culture	Fresh stool	Sterile container	5g	PER-PAT 301	Serology	Parasitology unit, IMR	
144	Hepatitis A antibody	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
145	Hepatitis B Viral Load	Blood	3 EDTA tubes	15.0 ml	PER-PAT 301	Serology	HSAJB	
146	Hepatitis C Viral Genotyping	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Virology unit, HKL	Need to discuss with hepatogastroenterologist from HSAJB; HCV VL must be > 500IU/ml & for liver cirrhosis cases only.
147	Her-2 ISH		1 PARAFFIN BLOCK			Histopathology	HKL	
148	Herpes simplex virus (HSV 1&2) serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
149	Herpes simplex virus (HSV) PCR	Blood, CSF	Blood: EDTA tube, CSF: Bijou bottle	Blood: 5 ml, CSF: 1ml	PER-PAT 301	Serology	Microbiology unit, Hospital Sungai Buloh	
150	HHV-8			5X UNSTAINED SLIDES	IHC FORM	PATOLOGI ANATOMI HKL	HKL	
151	HIV confirmation for neonate	Blood	3 EDTA tubes	2.5 ml	Borang Ujian Polymerase Chain Reaction (PCR) Untuk Human Immunodeficiency Virus (HIV) Di Kalangan Bayi	Serology	Virology unit, IMR	
152	HIV Drug Resistance Test	Blood	3 EDTA tubes	5.0 ml	HIV Genotyping Resistance Typing Form	Serology	Virology unit, IMR	
153	HIV Viral Load	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
154	HLA Crossmatch	Fresh blood in room temperature (without ice)	Donor: whole blood in sodium heparin tube; Patient: whole blood in plain tube	Sodium heparin tube: 18.0 ml, Plain tube: 6.0ml	HLA Crossmatch Test Request Form (Living Donor); HLA Crossmatch Test Request Form (Deceased Donor Donor)	Serology	Transplantation immunology unit, IMR	By appointment only

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
155	HLA Typing	Fresh blood in room temperature (without ice)	EDTA tube	6.0 ml	HLA Typing Test Request Form; HLA Typing Test Request Form (Disease Association)	Serology	Transplantation immunology unit, IMR	By appointment only
156	Homocysteine Total	Blood	Plain gel tube	5 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	
157	Homocystine	Random Urine	Sterile Container	20 ml	PERPAT 301	Chemical Pathology	HKL	By Appointment only, Protect from light
158	Hydatid disease/Echinococcosis Serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Parasitology unit, IMR	
159	Hypereosinophilia-Platelet Derived Groeth Factor Receptor (PDGFR)	Blood	EDTA	3-5 ml (5 tubes)	Hospital Ampang Special Hematology Lab Requisition.	Hematology unit	Hospital Ampang	
160	IGRA test	Blood	Special tubes	Various	Mycobacterium leprae Viability & Drug Sensitivity Test Request Form	Serology	MKAJB	To get referral through Klinik Sejahtera HPSF
161	Immunoglobulin & Complement Quantitation	Fresh blood in room temperature (without ice)	Plain gel tube	5.0 ml	Primary Immunodeficiency (PID) Request Form	Serology	PID unit, IMR	By appointment only

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
162	Immunophenotyping for Paroxysmal Nocturnal Hemoglobinuria	Peripheral blood	EDTA	2 x 2.0ml	PER-PAT 301	Hematology unit	Hospital Tunku Azizah, HKL	
163	Inborn Error Metabolism (IEM) Screening	Dried Blood Spot	Special filter paper.eg: PerkinElmer 226	4 circles of dried blood spot	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	
164	Inborn Error Metabolism (Molecular testing) - Disorders of Amino Acids & Organic Acids Metabolism - Fatty Acids Oxidation Defects - Disorders of Carbohydrate Metabolism - Lysosomal Storage Diseases - Disorders of Purine & Pyrimidine Metabolism - Other Metabolic Disorders	Blood, Urine, Tissue	Blood : EDTA Urine : sterile container Tissue : sterile container	Blood : 2.5ml Urine : 10-20 ml	Request form for Molecular Diagnostics Services version 9.2	Biochemistry	IMR	All cases must be referred to Clinical Geneticist/ Neurologist, must be endorse test before submission and require consent for genetic testing. *Please refer to request form provided at page 163-165
165	Influenza A & B/H1N1 detection (PCR)	Nasal swab, Throat swab	VTM	NA	PER-PAT 301	Serology	HSAJB	
166	INHIBIN			5X UNSTAINED SLIDES	IHC FORM	PATOLOGI ANATOMI HKL	HKL	
167	Inhibitors against clotting factors (Bethesda Assay)	Blood	Sodium Citrate	Adults: 10ml (4 tubes) Children (below 1 y/o):5ml (2 tubes)	PER-PAT 301	Hematology unit	HSAJB	Must write date and time sample taken

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
168	Insulin	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HKL	
169	Insulin Like Growth Factor (IGF-1)	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL PUTRAJAYA	
170	IPTH (Intact Parathyroid Hormone)	Blood	K2 EDTA	5 ml	PERPAT 301	Chemical Pathology	HSAJB	Send in cold box with ice
171	JAK 2/Calreticulin (Calreticulin only carry out if JAK2 mutation negative)	Blood/ Bone marrow	EDTA	PB: 5.0 ml BM:1-2 ml	Hospital Ampang Special Hematology Lab Requisition.	Hematology unit	Hospital Ampang	
172	Japanese encephalitis Virus (JEV) PCR	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Virology unit, IMR	
173	Japanese encephalitis Virus (JEV) Serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	MKAK Sungai Buloh	
174	KRAS			5X UNSTAINED SLIDES	IHC FORM	SITOGNETIK HOSPITAL WANITA DAN KANAK-KANAK	HKL	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
175	Lead	Blood	Lithium Heparin / K2 EDTA tube	5 ml	PERPAT 301	Toxicology (Chemical Pathology)	IMR	
176	Leber Hereditary Optic Neuropathy (LHON) Syndrome	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	
177	LEIGH Syndrome (SURF1)	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	
178	Leishmaniasis Microscopy	Blood	EDTA tube	2.5 ml	PER-PAT 301	Serology	Parasitology unit, IMR	
179	Leishmaniasis Serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Parasitology unit, IMR	
180	Leptospiral MAT	Blood	Plain gel tube	5.0 ml	PER-PAT 301 & MKAK Laboratory Request Form MKAK-BPU-U01	Serology	MKAJB	
181	Leptospiral PCR	Blood	EDTA tube	2.0 ml	Leptospirosis Laboratory Request Form	Serology	Bacteriology unit, IMR	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
182	Lithium	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	Hospital Permai	
183	Lupus Anticoagulant	Blood	Sodium Citrate	1.8 ml-2.7 ml according to brand of tube (2 tubes)	PER-PAT 301	Hematology unit	Hospital Sultanah Aminah	(Must follow Guideline Thrombophilia Testing by PDN) If patient on warfarin, must stop medication 2 weeks apart
184	Lymphocyte Proliferation Assay/Lymphocyte Transformation Test	Fresh blood in room temperature (without ice)	Sodium heparin tube	5.0 ml	Primary Immunodeficiency (PID) Request Form	Serology	PID unit, IMR	By appointment only
185	Lysine Metabolism Profile, Urine (P6C)	Urine	Sterile Container	20 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	
186	Lysosomal Storage Disorders (LSD) Screening,	Dried Blood Spot	Special filter paper.eg: PerkinElmer 226	4 circles of dried blood spot	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	
187	Malaria PCR	Blood	EDTA tube	2.5 ml	PER-PAT 301	Serology	Parasitology unit, IMR	
188	Maple Syrup Urine Disease (MSUD)	Blood	Lithium Heparin tube	5 ml	PERPAT 301	IEM Lab Paediatric Institute (Chemical Pathology)	HKL	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
189	MDR detection by LPA	Sputum, pleural fluid, bronchial aspirate	Sterile container	3-5 ml	Borang Permohonan Ujian Tibi TBIS 20C	Serology	MKAK Sungai Buloh	For Tb smear positive case only
190	Measles PCR	Urine, Nasopharyngeal aspirate, throat swab	Urine & NPA: Sterile container; Throat swab: VTM	Urine: 10 ml, NPA: 1 ml	Measles - Borang Permohonan Dan Keputusan Ujian Makmal	Serology	MKAK Sungai Buloh	
191	Measles Serology	Blood	Plain gel tube	5.0 ml	Measles - Borang Permohonan Dan Keputusan Ujian Makmal	Serology	MKAJB	
192	Melioidosis Serology	Blood	Plain gel tube	5.0 ml	IMR Bacteriology Request Form	Serology	Bacteriology unit, IMR	
193	MERS-COV PCR	Sputum, ETT aspirate, BAL, NPA	Sterile container	2.0 - 5.0 ml	PER-PAT 301	Serology	HSAJB	
194	Metanephrines, 24 Hour	24 Hour Urine	24 Hour Urine Container with 10 mls of 25% HCL	Minimum Volume : 750 ml	PERPAT 301	Chemical Pathology	HOSPITAL PUTRAJAYA	Physician / Specialist counter sign required
195	Methotrexate	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL MELAKA	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
196	Methylmalonic Acid (MMA)	Blood	Plain tube	5 ml	PERPAT 301	Chemical Pathology	HKL	
197	Minor BCR-ABL 1	Follow up BMA	EDTA	1-2 ml	Hospital Ampang Special Hematology Lab Requisition.	Hematology unit	Hospital Ampang	
198	Mitochondrial DNA Deletion Syndrome Chronic Progressive External Ophthalmoplegia (CPEO)	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	
199	Mitochondrial DNA deletion Syndromes- Kearns Sayre Syndrome	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	
200	Mitochondrial Encephalomyopathy, Lactate Acidosis and Stroke-like Episode (MELAS) (Full panel)	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	
201	MNGIE (Thymidine Phosphorylase deficiency)	Blood & Random Urine	Lithium Heparin & sterile container	5 ml	PERPAT 301	IEM Lab Paediatric Institute (Chemical Pathology)	HKL	
202	Mucopolysaccharides (GAGs / HRE), Urine	Urine	Universal Container	20 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
203	Mumps Virus Serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
204	Muscle biopsy	FRESH TISSUE		0.5 x 1mm	PERPAT 301	PATOLOGI ANATOMI HKL	HKL	Appointment needed.Refer to page 132
205	Mycobacterium leprae viability & Drug sensitivity test	Slit skin smear	Sterile container	NA	Mycobacterium leprae Viability & Drug Sensitivity Test Request Form	Serology	MKAK Sungai Buloh	
206	Myoclonic Epilepsy with Ragged-Red Fibres (MERRF) Syndrome (8344 hostspot)	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	
207	Myoglobin & Hemoglobin, Urine	Urine	Universal Container	20 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	
208	Nipah Virus Antibody	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Virology unit, IMR	
209	Non-Ketotic Hyperglycemia (NKH)	Blood & CSF	Lithium heparin & sterile container	5 ml	PERPAT 301	IEM Lab Paediatric Institute (Chemical Pathology)	HKL	Paired blood & CSF sample

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
210	Noonan Syndrome (PTPN11)	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	
211	NPM1 (AML-diagnosis and follow up)	Blood or Bone marrow	EDTA	PB: 5.0 ml , BM:1-2 ml	Hospital Ampang Special Hematology Lab Requisition.	Hematology unit	Hospital Ampang	
212	Oligosaccharide, Urine	Urine	Universal Container	20 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	
213	Organic Acids	Urine	Sterile Container	20 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	
214	Organic Acids (FORENSIC ONLY)	Blood	Plain gel tube	5 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	By Consultation only
215	Organic Acids, Vitreous Humour (FORENSIC ONLY)	Vitreous			IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	By Consultation only
216	Orotic Acid	Urine	Sterile Container	20 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
217	Osmolality	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HSAJB	
218	Osmolality	Urine	Sterile Container	20 ml	PERPAT 301	Chemical Pathology	HSAJB	
219	Osmotic Fragility Test	Blood	Lithium Heparin EDTA	4.0 ml 3.0 ml	PER-PAT 301	Hematology unit	Hospital Sultanah Aminah	Sample should not exceed 4 hours after blood taking with appointment (Need to call HSAJB pathologist in charge for appointment)
220	p16			5X UNSTAINED SLIDES	IHC FORM	PATOLOGI ANATOMI HKL	HKL	
221	PANEL DIABETES ANTIBODIES : Glutamic Acid Decarboxylase (GAD) Antibody, Anti-Islet Antibody (ICA), Protein Tyrosine Phosphatase Antibody (ICA512 or IA2A)	Blood	Plain gel tube	5 ml	PERPAT 301	Endocrine	IMR	Request only by Endocrinologist & Medical specialist
222	PANEL TEST : Mucopolysaccharidoses Enzyme Assays	Blood	Plain gel tube	5 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	(Choose NOT more than TWO diseases of enzyme) Refer Appendix No
223	PANEL TEST :Lysosomal Storage Disease Enzyme Assays	Blood	Plain gel tube	5 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	(Choose NOT more than TWO diseases of enzyme) Refer Appendix No

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
224	Pap smear - Liquid based for cytology (LBC)	Cervical/ Vagina smear	BD SurePath Vial	As collected	PS 1/98 (Pindaan 2019)	Cytopathology	Hospital Pakar Sultanah Aminah Johor Bahru (HSAJB)	Send away for processing only
225	Paraneoplastic Neurological Syndrome (PNS) Panel: Anti-Amphiphysin, Anti-Ma, Anti-Yo, Anti-Ri, Anti-Hu, Anti-CV2	Blood	Plain gel tube	5.0 ml	AUTOIMMUNE REQUEST FORM	Serology	Autoimmune unit, IMR	* CSF sample is accepted
226	Parvovirus B19 PCR	Bone marrow aspirate	Plain gel tube	1.0-3.0 ml	PER-PAT 301	Serology	MKAK Sungai Buloh	
227	Parvovirus serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
228	PAX8			5X UNSTAINED SLIDES		HOSPITAL SULTANAH AMINAH JOHOR BHARU	HSAJB	
229	Peroxisomal Disorder Profile, (VLC)	Blood	Plain gel tube	5 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	
230	Pesticide	Blood	Sodium Flouride tube	5 ml	Kimia 15-Pin.3/2020 (pindaan 2020)	Makmal Kimia	JABATAN KIMIA, JB	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
231	Phenobarbital	Blood	Plain tube without gel	5 ml	PERPAT 301	Chemical Pathology	HSAJB	
232	Phenylketonuria (PKU)	Blood	Lithium Heparin tube	5 ml	PERPAT 301	IEM Lab Paediatric Institute (Chemical Pathology)	HKL	
233	Phospholipase A2 Receptor antibody (PLA2R)	Blood	Plain gel tube	5.0 ml	AUTOIMMUNE REQUEST FORM	Serology	Autoimmune unit, IMR	
234	Pipecolic Acid	Blood	Plain gel tube	5 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	
235	PLAP			5X UNSTAINED SLIDES	IHC FORM	PATOLOGI ANATOMI HKL	HKL	
236	Platelet Immunology Test	Blood	K2 EDTA & Plain Tube	10 ml	PDN/IH/QPO 5/02	Transfusion Medicine Unit	PDN	Form need to be downloaded from PDN Website Need to spoken to TMS oncall PDN
237	Platelet aggregation test	Blood	NA	NA	NA	Hematology	PDN	Need appointment and patient need to go to Pusat Darah Negara for fresh blood withdraw

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
238	PML-RARA (bcr1, bcr2 & bcr3) [Monitoring]	Bone marrow (Initial diagnosis and follow up)	EDTA	1-2 ml	Hospital Ampang Special Hematology Lab Requisition.	Hematology unit	Hospital Ampang	
239	<i>Pneumocystis jirovecii</i> pneumonia (PCP) Immunofluorescent Test	Induced Sputum; BAL	Sterile container	2.0-5.0 ml	PER-PAT 301	Serology	HSAJB	
240	Porphyria Profile	Urine	Universal Container	20 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	Protect from light
241	PRA HLA Antibody	Fresh blood in room temperature (without ice)	Plain tube	6.0 ml	HLA Antibody Test Request Form	Serology	Transplantation immunology unit, IMR	
242	Prader Willi Syndrome (SNRPN)	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	
243	Protein C	Blood	Sodium Citrate	>12 y/o :12-15 ml 1-12 y/o: 10 ml <1 y/o: 5 ml	PER-PAT 301	Hematology unit	Pusat Darah Negara	(Must follow Guideline Thrombophilia Testing by PDN)
244	Protein S	Blood	Sodium Citrate	>12 y/o :12-15 ml 1-12 y/o: 10 ml <1 y/o: 5 ml	PER-PAT 301	Hematology unit	Pusat Darah Negara	(Must follow Guideline Thrombophilia Testing by PDN)

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
245	PTEN Related disorders (PTEN) - Sequencing	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	
246	Pterins, CSF - Neurotransmitter	CSF	Bijou Bottle	1 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	Protect from light, special microtube with preservative EDTA and DTE provided by the Biochemistry Unit, IMR
247	Pterins, Urine - Neurotransmitter	Urine	Universal Container	20 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	Protect from light
248	Purine & Pyrimidine	Random Urine	Universal Container	20 ml	PERPAT 301	IEM Lab Paediatric Institute (Chemical Pathology)	HKL	Send in cold box with ice
249	RAS			5X UNSTAINED SLIDES		PANTAI PREMIER PATHOLOGY	KL	
250	Red Cell Phenotyping	Blood	K2 EDTA & Plain gel Tube	10 ml	PER PAT	Transfusion Medicine Unit	HSAJB / PDN	
251	Renin	Blood	K2 EDTA	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL PUTRAJAYA	Please follow protocol

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
252	Rickettsia (Scrub Typhus) serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
253	Rubella serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
254	RUNX1-RUNX1 T1 [Monitoring]	Bone marrow (Follow up)	EDTA	1-2 ml	Hospital Ampang Special Hematology Lab Requisition.	Hematology unit	Hospital Ampang	
255	Salicylate	Blood	Plain tube without gel	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL MELAKA	
256	Saline Loading Test	Blood	K2 EDTA	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL PUTRAJAYA	Please follow protocol
257	Schistosomiasis Serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Parasitology unit, IMR	
258	SCN1A-Related Seizure Disorders (SCN1A)	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
259	Serum Alpha 1 Antitrypsin Phenotyping	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL AMPANG	
260	Serum Beta 2 Microglobulin	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL AMPANG	
261	Serum Erythropoietin	Blood	Gel Tube	5.0 ml	Hospital Ampang Special Hematology Lab Requisition.	Hematology unit	Hospital Ampang	
262	Serum Myoglobin	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL AMPANG	
263	Serum Protein Electrophoresis	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL AMPANG/HKL	*HKL will be start in Jan 2022/circular to follow.
264	Serum Transferin	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL AMPANG	
265	Serum Transferin Isoform	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL AMPANG	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
266	Sex Hormone Binding Globulins (SHBG)	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL PUTRAJAYA	Testosterone result needs to be provided if Free Androgen Index (FAI) report is required
267	Sialic Acid, Total & Free, Urine	Urine	Universal Container	20 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	
268	Sirolimus	Blood	K2 EDTA	5 ml	PERPAT 301	Drug & Toxicology	HKL	
269	Skin Antibodies Panel: Anti-BP 180, Anti-BP-230, Anti-Desmoglein 1 & Anti-Desmoglein 3	Blood	Plain gel tube	5.0 ml	AUTOIMMUNE REQUEST FORM	Serology	Autoimmune unit, IMR	
270	Specific Liver Antibodies (SLA) Panel: Anti-AMA-M2, M2 3E/BPO, Sp100, PML, gp210, LKM1, LC-1, SLA/LP, Ro-52	Blood	Plain gel tube	5.0 ml	AUTOIMMUNE REQUEST FORM	Serology	Autoimmune unit, IMR	
271	Spinal Muscular Atrophy (SMA) Sequencing	Blood	EDTA	2 x 2.5ml	IMR/SDC/UM D/REQUEST FORM	Hematology unit	IMR	
272	S-Sulphocysteine, Urine	Urine	Universal Container	20 ml	IEM Request Form IMR/SDC/BC/ FORM-RQ Version No 6	Biochemistry	IMR	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
273	Stool for Cryptosporidium spp., Cyclospora spp. and Isospora spp. (DMSO stain) and Microsporidium spp.(Gram Chromotrope stain)	Fresh stool	Sterile container	6g	PER-PAT 301	Serology	Parasitology unit, IMR	
274	Succinylacetone, Urine	Urine	Universal Container	20 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	
275	Sugar & Polyols, Urine	Urine	Universal Container	20 ml	IEM Request Form IMR/SDC/BC/FORM-RQ Version No 6	Biochemistry	IMR	
276	Sulphite	Random Urine	Universal Container	20 ml	PERPAT 301	IEM Lab Paediatric Institute	HKL	Send in cold box with ice
277	T&B cell Subset Enumeration	Fresh blood in room temperature (without ice)	EDTA tube	2.0 ml	Primary Immunodeficiency (PID) Request Form	Serology	PID unit, IMR	By appointment only
278	Tacrolimus	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HSAJB	
279	Taeniasis/Cysticercosis Serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Parasitology unit, IMR	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
280	TB identification & Antibiotic Susceptibility Test	Sputum	Sterile container	3.0 ml	Borang Permohonan Ujian Tibi TBIS 20C	Serology	MKAK Sungai Buloh	
281	TB liquid (Bactec) culture	Sputum/body fluid/tissue/pus	Sterile container	5.0 ml	PER-PAT 301	Serology	HSAJB	Liquid media culture MGIT Myco F Lytic - 42 day Solid media(LJ)- 8 weeks Positive culture will be send to MKAK for ID and AST.
282	TB PCR	Sputum, bronchial wash, body fluids	Sterile container	at least 5.0 ml	Borang Permohonan Ujian Tibi TBIS 20C	Serology	MKAK Sungai Buloh	
283	TB PCR by Gene Xpert	Sputum/csf	Sterile container	5.0 ml	PER-PAT 301	Serology	HSAJB	
284	Thrombophilia screening	Blood	Sodium Citrate	1.8 ml -2.7 ml according to brand of tube Adult(8 tubes) <1 year(4 tubes)	PER-PAT 301	Hematology unit	Pusat Darah Negara	(Must follow Guideline Thrombophilia Testing by PDN)
285	Thyroglobulin (Tg)	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HSAJB	
286	Tissue Antibodies (TA) Panel: Anti-Gastric Parietal Cell Antibody (APC), Anti-Mitochondrial Antibodies (AMA), Anti-Smooth Muscle (ASMA), Anti Liver Kidney Microsomal (LKM)	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
287	TORCHES SCREENING	Blood	Plain gel tube	5.0 ml	TORCHES Programme Form	Serology	HSAJB	
288	Toxocariasis Serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Parasitology unit, IMR	
289	Toxoplasma serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
290	Trichinellosis Serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Parasitology unit, IMR	
291	Troponin	Blood	Lithium Heparin	5 ml	PERPAT 301	Chemical Pathology	HSAJB	
292	Trypanosomiasis Microscopy/PCR/Serology	Blood	EDTA tube	2.5 ml	PER-PAT 301	Serology	Parasitology unit, IMR	
293	Tryptase test	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	Allergy unit, IMR	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
294	Urine Legionella antigen	Urine	Universal Container	5.0 ml	PER-PAT 301	Serology	HSAJB	
295	Urine Myoglobin	Random Urine	Universal Container	20 ml	PERPAT 301	Chemical Pathology	HOSPITAL AMPANG	
296	Urine Protein Electrophoresis	Random Urine	Universal Container	20 ml	PERPAT 301	Chemical Pathology	HOSPITAL AMPANG/HKL	*HKL will be start in Jan 2022/circular to follow.
297	Varicella zoster (VZV) PCR	Blood, CSF	Blood: EDTA tube, CSF: Bijou bottle	Blood: 5 ml; CSF: 1ml	PER-PAT 301	Serology	Microbiology unit, Hospital Sungai Buloh	
298	Varicella Zoster Virus (VZV) serology	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
299	Viral Isolation	Cerebrospinal fluid, Throat swab, Rectal swab	CSF: Bijou Bottle; Throat swab/rectal swab: VTM	CSF: 1.0 ml	PER-PAT 301	Serology	Virology unit, IMR	
300	Vitamin D	Blood	Plain gel tube	5 ml	PERPAT 301	Chemical Pathology	HOSPITAL PUTRAJAYA	

NO	TEST	SPECIMEN TYPE	TUBE/ CONTAINER	VOLUME	REQUEST FORM	REFERRAL LAB UNIT	OUTSOURCE TO	REMARKS
301	Von Willebrand Profile	Blood	Sodium Citrate	1.8 ml-2.7 ml according to brand of tube (5 tubes)	PER-PAT 301	Hematology unit	Pusat Darah Negara	
302	ZIKA Virus PCR	Blood	Plain gel tube	5.0 ml	PER-PAT 301	Serology	HSAJB	
303	Zinc	Blood	Sodium Flouride tube	5 ml	Kimia 15-Pin.3/2020 (pindaan 2020)	Makmal Kimia	JABATAN KIMIA, JB	