

HAEMATOLOGY LABORATORY

Department of Laboratory Services

Haematology Laboratory Services provide routine and specialised haematological tests and interpretation of results. It is closely linked to Clinical Haematology and Blood Donation services.

The laboratory provides:

- Routine haematology and coagulation tests.
- Specialised tests include:
 - Haematological oncology diagnosis
 - Process and interpret bone marrow studies
 - Haemophillia and Thrombophillia studies
 - Thalassaemia and Haemoglobinopathy

Address

RIPAS Hospital
Bandar Seri Begawan

Contact

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Telephone:	2242424
Head of Section	EXT 6045
Automation	EXT 6701
Coagulation	EXT 6701
Morphology/ Bone Marrow	EXT 6043
Special Haematology	EXT 6044

Laboratory Personnel

Head of Section: Hjh Sarinah Hj Ahmad
Deputy Head of Section: Aimi Diyana Hj Gapor

Staff:	Scientific Officers
	Medical Lab Technologist
	Technicians
	Attendant

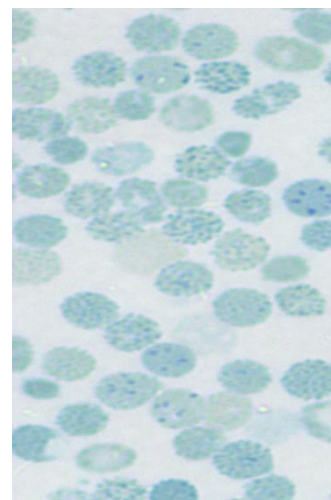
Operating Hours

Automation	: 24 hrs/ 7 Days a week
Coagulation	: 24 hrs/ 7 Days a week
Morphology/Bone Marrow	: Office hrs only
Special Haematology	: Office hrs only

Office hrs:

Monday to Thursday and Saturday
7.45am - 12.15pm and 1.30pm - 4:30 pm

HAEMATOLOGY LABORATORY TEST CATALOGUE



1. Activated Partial Thromboplastin Time (APTT)		2242424 ext 6701	
Specimen	Blood (Sodium Citrate, blue top - up to the mark)		
Transport	Send to the Lab Immediately		
Unacceptable	Below or above the mark, haemolysed, clotted		
Method	Clotting		
Performed	Daily		
TAT	2 hrs (STAT), 4 hrs (routine)		
Clinical Usage	Monitoring heparin therapy and screening test for clotting factors		
Reference	(Population range) 26.6 – 39.0 sec		

2. Anti-Thrombin		2242424 ext 6701	
Specimen	Blood (Sodium Citrate, blue top – up to the mark)		
Unacceptable	Below or above the level, haemolysed, clotted		
Method	Automated Chromogenic assay		
Performed	Samples accepted daily, frozen and tested in a weekly basis		
TAT	2 weeks		
Clinical Usage	Investigation of inherited and acquired thrombotic tendency		
Reference	(Population range) 83 -131%		

3. Anti-Xa (Low Molecular Weight Heparin)		2242424 ext 6701	
Specimen	Blood (Sodium Citrate, blue top – up to the mark)		
Unacceptable	Below or above the level, haemolysed, clotted		
Method	Automated Chromogenic assay		
Performed	Office hours only by appointment basis		
TAT	1 week		
Clinical Usage	To monitor low molecular weight heparin therapy		
Reference	(Journal Reference) Therapeutic range : 0.5 – 1.2 IU/mL		

4. APTT 50% Correction		2242424 ext 6701	
Specimen	Blood (Sodium Citrate, blue top - up to the mark)		
Transport	Send to the Lab immediately		
Unacceptable	Below or above the mark, haemolysed and clotted		
Method	Clotting		
Performed	Daily		
TAT	4 Hrs		
Clinical Usage	To detect the presence of inhibitors of coagulation		
Reference	(Population range)		
	26.6 – 39.0 sec		

5. Blood Film		2242424 ext 6701
Specimen	Blood (EDTA, purple top – 1-2 mL)	
Transport	Send to the Lab Immediately	
Unacceptable	Haemolysed, clotted	
Method	Light microscopy	
Performed	Office hours only	
TAT	1 working day	
Clinical Usage	To interpret FBC result	

6. Bone Marrow Aspirate		2242424 ext 6043
Specimen	Bone marrow aspirate	
Transport	Send to Lab Immediately	
Unacceptable	Dry tap	
Method	May-Grunwald Giemsa Stain, Perl's Stain	
Performed	Office hours	
TAT	14 working days	

7. D-Dimer		2242424 ext 6701
Specimen	Blood (Sodium Citrate, blue top – up to the mark)	
Transport	Send to the Lab immediately	
Unacceptable	Below or above the level, haemolysed, clotted	
Method	Immunoturbidimetry	
Performed	Daily	
TAT	4 hrs	
Clinical Usage	Aid in the diagnosis of disseminated intravascular coagulation (DIC), acute thromboembolic event	
Reference	(Population range) 0 - 255 ng/mL D-Dimer Unit	

8. Differential Count (Diff)		2242424 ext 6701
Specimen	Blood (EDTA,purple top - 3mL)	
Transport	Send to the Lab immediately	
Unacceptable	Haemolysed, clotted	
Method	Light Microscopy or Light Scattering Flow Cytometry	
Performed	Daily	
TAT	1 Hr (STAT), 8 Hrs (routine)	
Reference	See Lab Report	

9. Erythrocyte Sedimentation Rate (ESR)		2242424 ext 6701
Specimen	Blood (EDTA,purple top - 1mL)	
Unacceptable	Haemolysed, clotted	
Method	Photometric rheology/ Alcor Scientific iSED	
Performed	Daily	
TAT	1 day	
Reference	(Population range)	
	Male	1 - 31 mm/hr
	Female	1 – 34 mm/hr

10. Factor VIII assay		2242424 ext 6701
Specimen	Blood (Sodium Citrate, blue top - up to the mark)	
Transport	Send to the Lab immediately	
Unacceptable	Below or above the mark, haemolysed, clotted	
Method	Clotting	
Performed	Samples accepted daily, frozen and tested in a weekly basis	
TAT	2 weeks	
Clinical Usage	To determine the Factor VIII activity	
Reference	(Journal Reference) 50 – 150%	

11. Factor IX assay		2242424 ext 6701
Specimen	Blood (Sodium Citrate, blue top - up to the mark)	
Transport	Send to the Lab immediately	
Unacceptable	Below or above the mark, haemolysed, clotted	
Method	Clotting	
Performed	Samples accepted daily, frozen and tested in a weekly basis	
TAT	2 weeks	
Clinical Usage	To determine the Factor IX activity	
Reference	(Journal Reference) 65 – 150%	

12. Fibrinogen Level		2242424 ext 6701
Specimen	Blood (Sodium Citrate, blue top - up to the mark)	
Transport	Send to the Lab immediately	
Unacceptable	Below or above the mark, haemolysed, clotted	
Method	Clotting	
Performed	Daily	
TAT	4 Hrs	
Clinical Usage	Aids in the detection of fibrinogenaemia, disseminated intravascular coagulation and fibrinolysis	
Reference	(Population range) 1.8 – 4.2 g/L	

13. Full Blood Count (FBC)		2242424 ext 6701		
Specimen	Blood (EDTA, purple top - 3mL)			
Unacceptable	Haemolysed, clotted			
Method	Test includes machine operated differential count by light scattering flow cytometry, cytochemistry			
Performed	Daily			
TAT	1 hr (STAT), 8 Hrs (routine)			
Reference	(Population ranges for Male and Female)			
		Newborn	Male	Female
	WBC x 10 ⁹ /L	10.0 - 26.0	4.2 - 12.6	4.2 – 12.6
	RBC x 10 ¹² /L	5.0 - 7.0	4.67 - 6.13	4.00 – 5.62
	HB g/dL	14.0 - 22.0	13.5 - 17.9	11.5 – 15.9
	PCV %	44.0 - 75.0	41.6 - 53.6	35.8 – 49.0
	MCV fL	100 – 120	81.0 - 95.4	81.0 – 95.4
	MCH pg	31 - 37	26.0 - 31.6	26.0 – 31.6
	MCHC g/dL	30 – 36	30.4 - 34.8	30.4 – 34.8
	PLT x 10 ⁹ /L	100 – 450	174 – 430	174 – 430
	MPV x fL		8.5 – 11.7	8.5 – 11.7

14. Lupus Anticoagulant screen (LA)		2242424 ext 6701
Specimen	Blood (Sodium Citrate, blue top - up to the mark)	
Transport	Send to the Lab immediately	
Unacceptable	Below or above the mark, haemolysed, clotted	
Method	dVVRT	
Performed	Samples accepted daily, frozen and tested in a weekly basis	
TAT	2 weeks	
Clinical Usage	Consider this test in prolonged APTT, recurrent abortions, SLE or thrombotic conditions	
Reference	Not detected	

15. Malarial Parasites		2242424 ext 6701
Specimen	Blood (EDTA, purple top)	
Unacceptable	Haemolysed, clotted	
Method	Light microscopy	
Performed	Daily except Foreign worker only done during office hour	

TAT	4hr (STAT) , 5 working days (Routine and Foreign Worker screening)
Clinical Usage	Detection and identification of malarial parasites

16. Osmotic Fragility (Red Cell)		2242424 ext 6044
Specimen	Fresh blood (Lithium Heparin, green top - 4mL)	
Transport	Send to the Lab immediately	
Unacceptable	Haemolysed	
Method	Spectrometry	
Performed	Office hours only	
TAT	2 days	
Clinical Usage	Detection of the presence of red cell with membrane defects e.g. hereditary spherocytosis	
Reference	Increased osmotic fragility (shift to the right). Suggestive of Hereditary spherocytosis	

17. Prothrombin Time –INR (PT-INR)		2242424 ext 6701
Specimen	Blood (Sodium Citrate, blue top - up to the mark)	
Unacceptable	Below or above the mark, haemolysed, clotted	
Method	Clotting	
Performed	Daily	
TAT	2 Hrs, STAT	
Clinical Usage	Screening test for clotting disorders. Monitoring of anticoagulation therapy	
Reference	(Population range) PT: 9.5 – 11.9 sec INR: 0.9 – 1.1	

18. Protein C		2242424 ext 6701
Specimen	Blood (Sodium Citrate, blue top - up to the mark)	
Unacceptable	Below or above the mark, haemolysed, clotted	
Method	Chromogenic assay	

Performed	Samples accepted daily, frozen and tested in a weekly basis
TAT	2 weeks
Clinical Usage	Thrombophilia screening
Reference	(Population range) 66 – 178%

19. Protein S		2242424 ext 6701
Specimen	Blood (Sodium Citrate, blue top - up to the mark)	
Unacceptable	Below or above the mark, haemolysed, clotted	
Method	Automated latex ligand immunoassay	
Performed	Samples accepted daily, frozen and tested in a weekly basis	
TAT	2 weeks	
Clinical Usage	Thrombophilia screening	
Reference	(Population range) 42 - 122%	

20. PT 50% Correction		2242424 ext 6701
Specimen	Blood (Sodium Citrate, blue top - up to the mark)	
Unacceptable	Below or above the mark, haemolysed, clotted	
Method	Clotting	
Performed	Daily	
TAT	4 Hrs	
Clinical Usage	To detect presence of inhibitors of coagulation	

21. Reticulocyte Count		2242424 ext 6701
Specimen	Blood (EDTA, purple top - 3mL)	
Unacceptable	Haemolysed, clotted	
Method	Light scattering flow cytometry, cytochemistry	
Performed	Daily	
TAT	1 Hrs (STAT), 8 Hrs (routine)	
Clinical Usage	Assessment of erythropoietic activity	
Reference	(Population range for 12 yrs. Dacie and Lewis Practical Haematology for less than 12 yrs)	

Age	Retic (%)	Retic # (x 10 ⁶ /μL)
0-1 mth	2.3 – 5.4 %	0.12-0.4
1-6 mths	0.7-1.1 %	0.02-0.06
6 mths- 1 yr	1.0-1.8 %	0.04-0.1
1 yr-12 yrs	0.76-1.9 %	0.03-0.1
12 yrs	0.7-2.6 %	0.02-0.14

22. Rivaroxaban	2242424 ext 6701						
Specimen	Blood (Sodium Citrate, blue top - up to the mark)						
Unacceptable	Below or above the mark, haemolysed, clotted						
Method	Automated Chromogenic Assay						
Performed	Office hour only by appointment basis						
TAT	1 week						
Clinical Usage	To monitor the plasma concentration of Rivaroxaban						
Reference	(Journal Reference)						
	<table> <tr> <th><u>Rivaroxaban (Peak)</u></th><th><u>Rivaroxaban (Trough)</u></th></tr> <tr> <td>For Dose : 10mg od Range : 91 – 195 ng/mL</td><td>For Dose : 10md od Range : 1 - 38 ng/mL</td></tr> <tr> <td>For Dose : 20md od Range : 160 -360 ng/mL</td><td>For dose : 20mg od Range : 4 – 96 ng/mL</td></tr> </table>	<u>Rivaroxaban (Peak)</u>	<u>Rivaroxaban (Trough)</u>	For Dose : 10mg od Range : 91 – 195 ng/mL	For Dose : 10md od Range : 1 - 38 ng/mL	For Dose : 20md od Range : 160 -360 ng/mL	For dose : 20mg od Range : 4 – 96 ng/mL
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23. Sickling Test	2242424 ext 6044
Specimen	Blood (EDTA, purple top - 3mL), fresh
Method	Sickle Scan, Reduction test (Sodium bisulphate)
Performed	Office hours only
TAT	1 day
Clinical Usage	Detection of the presence of Hb S
Reference	Negative

24. Thalassaemia Screen or Hb Electrophoresis	2242424 ext 6044
Specimen	Blood (EDTA, purple top - 3mL)

Unacceptable	Clotted
Method	HPLC, electrophoresis, Briliant Cresyl Blue Stain
Performed	Office hours only
TAT	14 days
Clinical Usage	Investigation of thalassaemia and other haemoglobinopathies. Patient should not have blood transfusion in the last 3 months
Reference	Test Hb A2 1.8 – 3.5 %
	Hb F 0.1 – 1.4 %
	Hb C Absent
	Hb S Absent

25. Thrombin Time	2242424 ext 6701
Specimen	Blood (Sodium Citrate, blue top - up to the mark)
Transport	Send to the Lab immediately
Unacceptable	Below or above the mark, haemolysed, clotted
Method	Clotting
Performed	Daily
TAT	4 Hrs
Clinical Usage	Aids in the detection of presence of heparin, dysfibrinogenaemia, DIC
Reference	(Population range) 11.6 – 17.2 sec

26. Urine Haemosiderin	2242424 ext 6043
Specimen	Urine - 20mL, freshly taken
Transport	Send to the Lab immediately
Method	Perl's Prussian Blue
Performed	Office hours only
TAT	1 working day