PROFICIENCY TESTING REPORT

ISHTM-AIIMS EXTERNAL QUALITY ASSURANCE PROGRAMME

NABL accredited program as per ISO/IEC 17043:2010 standard

Organized By Department of Hematology, AIIMS, New Delhi-110029

PC-1002

Duration of stability testing - minimum upto 8 days at ambient temp. after dispatch of specimens

EQAP CODE No. : 47 **Distribution No.:** 158-A **Month/Year:** October/2022

Instrument ID: 110YAXH03533

Name & Contact No. of PT Co-ordinator: Dr. Seema Tyagi (Prof.), Hematology, AIIMS, Delhi, Tel: 9013085730 , E-Mail : accuracy2000@gmail.com

Date of issue & status of the report: 21-12-2022[Final].

CBC and Retic Assessment

Test Parameters	S.No.			Among Lab (Accuracy Testing)				Within Lab (Precision Testing)			
		Your Result 1	Your Result 2	Your Results Sum of 2 Value	Consensus result sum of 2 values (Assigned Value)	Uncertainty of Assigned Values	Z Score	Yours Results Diff. of 2 Values	Consensus Result Diff. of 2 values (Assigned Value)	Uncertainty of Assigned Values	Z Score
WBC x10^3/µl	1	4.49	4.14	8.63	14.5	0.0300	**-6.77**	0.35	0.1	0.0070	2.25
RBC x10^6/µl	1	4.29	4.26	8.55	8.5	0.0070	**0.27**	0.03	0.03	0.0020	**0.00**
Hb g/dl	1	12.5	12.2	24.7	25.1	0.0200	**-0.67**	0.3	0.1	0.0070	2.70
HCT%	1	38.7	38.6	77.3	79.6	0.1720	**-0.40**	0.1	0.3	0.0060	**-0.67**
MCV-fl	1	90.6	90.3	180.9	188	0.3400	**-0.57**	0.3	0.2	0.0180	**0.34**
MCH-Pg	1	29	28.8	57.8	59.2	0.6740	**-1.03**	0.2	0.2	0.0130	**0.00**
MCHC-g/dl	1	32.2	31.8	64	62.7	0.1290	**0.29**	0.4	0.2	0.0150	**0.90**
Plt. x10^3/µl	1	288	268	556	503	1.50	**1.23**	20	6	0.31	2.70
Retic %	2	5	4.8	9.8	15.8	0.26	**-0.80**	0.2	0.4	0.02	**-0.34**

P.S . Assesment

		YOUR REPORT	CONSENSUS REPORT
DLC%	3	Nrbcs=07 , Poly=41 L=55, E=02, Mono/Promono=02 , B1=0 P.M.=0, Mye=0, Meta=0, Other=0	Lympho: 37-47, Poly: 44-54, Mono: 2-5, Eosino: 1-5, blast/Promyelo/Myelo/Meta: 0
RBC Morphology	3	Microcytosis +++,Anisocytosis +++,Hypocytosis ++, Poikilosytosis Mild ,Target cells present and Macrocytosis.	Predominantly: Normocytic/Normochromic; Moderate: Anisocytosis, Microcytosis, Hypochromia; Mild: Poikilocytosis , Target cells , Sickle shaped cells ,tear drop cells
Diagnosis	3	-	Diagnosis- Haemoglobinopathy/Thalassemia

WBC DLC done
WB observing in next cycle
Aman Kaul.

Result satisfactory

COMBINED DATA VALUES OF TOTAL PARTICIPANTS

Test parameters	S.No.	Total participants covered in the current dist. 158--A	Total No. responded	% of Labs with Z Score 0-2		% of Labs with Z Score 2-3		% of Labs with Z Score >3	
				Among labs	Within lab	Among labs	Within lab	Among labs	Within lab
WBC $x10^3/\mu l$	1	362	356	84.55	85.39	4.21	7.3	11.24	7.31
RBC $x10^6/\mu l$	1	362	362	84.25	90.61	8.56	3.59	7.19	5.8
Hb g/dl	1	362	362	87.85	91.71	4.97	2.49	7.18	5.8
HCT%	1	362	357	98.04	86.27	0.84	6.72	1.12	7.01
MCV-fl	1	362	357	99.44	87.11	0.28	9.52	0.28	3.37
MCH-Pg	1	362	357	87.96	92.44	5.6	2.52	6.44	5.04
MCHC-g/dl	1	362	357	97.2	93	1.12	3.08	1.68	3.92
Plt. $x10^3/\mu l$	1	362	357	92.16	90.2	5.32	5.88	2.52	3.92
ReticCount%	2	362	340	93.53	93.24	4.12	5	2.35	1.76
PS Assessment	3	362	339	Satisfactory :96.68%, Borderline Sat. :2.76%, Unsatisfactory :0.552%					

*Comments:

1). Among Lab (EQA) : PS Diagnosis not reported, remaining results acceptable

2). Within Lab (IQA) : Precision acceptable.

Note-1: EQA (External Quality Assurance) : Your Performance among various of participating labs in PT, to determine the accuracy of your results.
IQA (Internal Quality Assurance) : Your Performance of comparison of two consecutive measurement values within your lab to test the precision of your autoanalyzer.

Note-2: Z score among & within lab were calculated, as per to ISO/IEC 13528:2015 standard. Z score among lab (EQA)= (Your Result Sum of two values - Consensus Result sum of two values)/(Normalised IQR)
Z score within lab (IQA)= (Your Result Difference of two values - Consensus Result difference of two values)/(Normalised IQR)
IQR = Quartile 3 - Quartile 1 of participant data, Normalised IQR = 0.7413 x IQR

Note-3: Z score 0 to ±2: Acceptable, Z score ±2 to ±3 :Warning Signal, Z score > ±3 : Unacceptable [As per ISO/IEC 13528:2015 standard]

Note-4: Z score value between"0 to ±2" are texted in green colour. Z score value between"±2 to ±3" are texted in orange colour. Z score value > ±3 are texted in red colour.

Note-5: Homogeneity and stability testing of PT sample were done as per ISO 13528:2015 standard. To pass homogeneity test, between sample SD (Ss) should be smaller than the check value (0.3*SDPA). To pass the stability test, average difference in measurement values of first and last day sample ($\bar{x}$-$\bar{y}$) should be smaller than the check value (0.3*SDPA).

Note-6: ISHTM-AIIMS-EQAP does not subcontract any task of its scheme

Note-7: Participants are free to use methods/analyzer of their own choice.

Note-8: Proficiency testing (PT) samples are sent quarterly to each participant.

Note-9: All the necessary details regarding design and implementation of PT, are provided in the instruction sheet as well as on programme's website www.ishtmaiimseqap.com.

Note 10: Reports are kept confidential.

Report authorized by,

Dr. Seema Tyagi (Prof.)
PT Co-ordinator: ISHTM-AIIMS-EQAP
Department of Hematology, AIIMS, New Delhi

----------End Of Report----------

Medical Laboratory Report

SANGEETA SUKHIJA PID NO: P112200924578 Age: 56.0 Year(s) Sex: Female	**Reference:** **Sample Collected At:** P.h Medical Centre(22) Sai-rachna, Juhu Road, Near Santacruz Police Station, Santacruzw MumbaiZone: W-13a(22) **Processing Location:**- Metropolis Healthcare Ltd,unit No409-416,4th Floor,commercial Building-1,kohinoor Mall,mumbai-70	**VID: 220011000901341** Registered On: 24/12/2022 04:27 PM Collected On: 24/12/2022 4:27PM Reported On: 24/12/2022 10:23 PM

CBC Haemogram

Investigation	Observed Value	Unit	Biological Reference Interval
Erythrocytes			
Haemoglobin (Hb)	**10.7**	gm/dL	12.0-16
Erythrocyte (RBC) Count	**3.11**	mill/cu.mm	4.2-5.4
PCV (Packed Cell Volume)	**31.8**	%	37-47
MCV (Mean Corpuscular Volume)	**102.3**	fL	82-101
MCH (Mean Corpuscular Hb)	**34.4**	pg	27-34
MCHC (Mean Corpuscular Hb Concn.)	33.6	g/dL	31.5-36
RDW (Red Cell Distribution Width)	**18.4**	%	11.5-14.0
RBC Morphology			
Anisocytosis	+		
Poikilocytosis	+		
Macrocytosis	+		
Leucocytes			
Total Leucocytes (WBC) count	**3,660**	cells/cu.mm	4300-10300
Absolute Neutrophils Count	**1940**	/c.mm	2000-7000
Absolute Lymphocyte Count	**952**	/c.mm	1000-3000
Absolute Monocyte Count	695	/c.mm	200-1000
Absolute Eosinophil Count	37	/c.mm	20-500
Absolute Basophil Count	37	/c.mm	20-100
Neutrophils	53	%	40-80
Lymphocytes	26	%	20-40
Monocytes	**19**	%	2.0-10
Eosinophils	1	%	1-6
Basophils	1	%	0-2
Platelets			
Platelet count	306	10^3 / µl	140-440
MPV (Mean Platelet Volume)	10.3	fL	7.8-11
PCT (Platelet crit)	0.32	%	0.2-0.5
PDW (Platelet Distribution Width)	10.3	%	9-17

Dr. PRIYANKA.PAGARE
MBBS, M.D.(PATHOLOGY)
CONSULTANT PATHOLOGIST

Medical Laboratory Report

220011000901341

SANGEETA SUKHIJA

PID NO: P112200924578
Age: 56.0 Year(s) Sex: Female

Reference:
Sample Collected At:
P.h Medical Centre(22)
Sai-rachna, Juhu Road, Near Santacruz Police Station, Santacruzw MumbaiZone: W-13a(22)
Processing Location:- Metropolis Healthcare Ltd,unit No409-416,4th Floor,commercial Building-1,kohinoor Mall,mumbai-70

VID: 220011000901341
Registered On:
24/12/2022 04:27 PM
Collected On:
24/12/2022 4:27PM
Reported On:
24/12/2022 10:23 PM

Investigation	Observed Value	Unit	Biological Reference Interval
Pathologist Remark	Leucopenia. Advice : Serum Vitamin B12, Folate levels. Kindly correlate clinically. Follow up.		

Note:- Kindly note change in reference ranges.

EDTA Whole Blood-Tests done on Automated Five Part Cell Counter. (RBC and Platelet count by impedance/Hydrodynamic focusing,WBC and differential by VCS technology/Impedance/Flow cytometry.Rest are calculated parameters).All Abnormal Haemograms are reviewed confirmed microscopically.Differential count is based on approximately 10,000 cells.

-- End of Report --

MC-2139

Tests marked with NABL symbol are accredited by NABL vide Certificate no MC-2139

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CONSULTANT PATHOLOGIST

Current - Original / Original x 100

= 3.660 - 3.76 / 3.76 x 100

=

WBC - 2-65

LABORATORY TEST REPORT

PATIENT'S NAME : **MS. SANGEETA SUKHIJA**
Age / Sex : **56 Years / Female**
Regn No. : **212241072**
Ref. By : **Dr. MANDAR NADKARNI**
SAMPLE TYPE : **WHOLE BLOOD**

Registered on : **24/12/2022 10:27 AM**
Collected on : **24/12/2022 10:28 AM**
Reported on : **24/12/2022 12:13 PM**
Int. Ref. : **212241072**

COMPLETE BLOOD COUNT

INVESTIGATION		RESULT	UNIT	BIOLOGICAL REFERENCE INTERVAL
RBC				
Haemoglobin Levels	**L**	**10.7 ***	g/dl	11 - 16
R.B.C Count	**L**	**2.95 ***	x 10^6/uL	3.8 - 5.3
PCV	**L**	**30.5 ***	%	36 - 48
MCV	**H**	**103.39 ***	fL	80 - 99
MCH	**H**	**36.27 ***	Pg	27 - 32
MCHC		35.08	g/dL	31.5 - 34.5
RDW	**H**	**18.0 ***	%CV	11.5 - 14.5
PLATELETS				
Platelet Count		291	x 10^3 /uL	150 - 450
WBC				
W.B.C Count	**L**	**3.76 ***	x 10^3/uL	4.0 - 10.0
Neutrophils		57.9	%	40.0 - 80.0
Lymphocytes		29.5	%	20.0 - 40.0
Monocytes	**H**	**11.1 ***	%	2.0 - 10.0
Eosinophils		0.9	%	1.0 - 6.0
Basophils		0.6	%	0.0 - 2.0
Neutrophils (Absolute Count)		2.18	x 10^3 /uL	2.0 - 7.0
Lymphocytes (Absolute Count)		1.1	x 10^3/uL	1 - 5
Monocytes (Absolute Count)		0.41	x 10^3 /uL	0.2 - 1.0
Eosinophils (Absolute Count)		0.03	x 10^3 /uL	0.02 - 0.5
Basophils (Absolute Count)		0.02	x 10^3 /uL	0.0 - 0.1
PERIPHERAL SMEAR STUDY				
RBC Morphology		Hypo + , Macro + ,Aniso +		
W.B.C Morphology		Normal		
Remark		-		

Method : Automated
Haemoglobin - Spectrophotometry, PlateletCount - FlowCytometry| HCT, MCH, MCHC - scattergram |MCV - Flowcytometry| Differential Count - Peroxidase & Microscopy | Morphology - Microscopy of fields stained smear.

*** END OF REPORT ***

DR. MILIND PATWARDHAN
M. D.
Consulting Pathologist

Thank you for the reference.
Individual laboratory investigations are never conclusive but should be used along with other relevant clinical examinations to achieve final diagnosis.

Medical Laboratory Report

220011000901353

LOKESH AGARWAL

PID NO: P112200924587
Age: 48.0 Year(s) Sex: Male

Reference:
Sample Collected At:
P.h Medical Centre(22)
Sai-rachna, Juhu Road, Near Santacruz Police Station, Santacruzw MumbaiZone: W-13a(22)
Processing Location:- Metropolis Healthcare Ltd,unit No409-416,4th Floor,commercial Building-1,kohinoor Mall,mumbai-70

VID: 220011000901353
Registered On:
24/12/2022 04:28 PM
Collected On:
24/12/2022 4:28PM
Reported On:
25/12/2022 07:56 AM

CBC Haemogram

Investigation	Observed Value	Unit	Biological Reference Interval
Erythrocytes			
Haemoglobin (Hb)	**13.4**	gm/dL	14-18
Erythrocyte (RBC) Count	4.56	mill/cu.mm	4.4-6.0
PCV (Packed Cell Volume)	**39.3**	%	42-52
MCV (Mean Corpuscular Volume)	86.3	fL	82-101
MCH (Mean Corpuscular Hb)	29.4	pg	27-34
MCHC (Mean Corpuscular Hb Concn.)	34.1	g/dL	31.5-36
RDW (Red Cell Distribution Width)	13.9	%	11.5-14.0
RBC Morphology			
Remark	Normochromic Normocytic		
Leucocytes			
Total Leucocytes (WBC) count	7,400	cells/cu.mm	4300-10300
Absolute Neutrophils Count	5106	/c.mm	2000-7000
Absolute Lymphocyte Count	1480	/c.mm	1000-3000
Absolute Monocyte Count	518	/c.mm	200-1000
Absolute Eosinophil Count	222	/c.mm	20-500
Absolute Basophil Count	74	/c.mm	20-100
Neutrophils	69	%	40-80
Lymphocytes	20	%	20-40
Monocytes	7	%	2.0-10
Eosinophils	3	%	1-6
Basophils	1	%	0-2
Platelets			
Platelet count	264	10^3 / µl	140-440
MPV (Mean Platelet Volume)	10.2	fL	7.8-11
PCT (Platelet crit)	0.271	%	0.2-0.5
PDW (Platelet Distribution Width)	17.0	%	9-17

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MBBS, M.D.(PATHOLOGY)
CONSULTANT PATHOLOGIST

Current - Original / Original x 100

7.90 - 7.43 / 7.43 x 100

WBC → 0-40

LABORATORY TEST REPORT

PATIENT'S NAME	: **MR. LOKESH AGARWAL**	Registered on	: **24/12/2022 10:35 AM**
Age / Sex	: **48 Years / Male**	Collected on	: **24/12/2022 10:37 AM**
Regn No.	: **212241077**	Reported on	: **24/12/2022 12:54 PM**
Ref. By	: **Dr. YOGESH SHROFF.**	Int. Ref.	: **212241077**
SAMPLE TYPE	: **WHOLE BLOOD**		

TOTAL BODY PROFILE

CBC + ESR

INVESTIGATION		RESULT	UNIT	BIOLOGICAL REFERENCE INTERVAL
RBC				
Haemoglobin Levels		13.5	g/dl	13 - 18.0
R.B.C Count		4.43	x 10^6/uL	4.4 - 6.0
PCV		38.8	%	40 - 52
MCV		87.58	fL	80 - 99
MCH		30.47	Pg	27 - 32
MCHC		34.79	g/dL	31.5 - 34.5
RDW		13.1	%CV	11.5 - 14.5
PLATELETS				
Platelet Count		295	x 10^3 /uL	150 - 450
WBC				
W.B.C Count		7.43	x 10^3/uL	4.0 - 10.0
Neutrophils		71.6	%	40.0 - 80.0
Lymphocytes	L	**19.7 ***	%	20.0 - 40.0
Monocytes		3.7	%	2.0 - 10.0
Eosinophils		4.3	%	1.0 - 6.0
Basophils		0.7	%	0.0 - 2.0
Neutrophils (Absolute Count)		5.32	x 10^3 /uL	2.0 - 7.0
Lymphocytes (Absolute Count)		1.46	x 10^3/uL	1 - 5
Monocytes (Absolute Count)		0.27	x 10^3 /uL	0.2 - 1.0
Eosinophils (Absolute Count)		0.31	x 10^3 /uL	0.02 - 0.5
Basophils (Absolute Count)		0.05	x 10^3 /uL	0.00 - 0.5
PERIPHERAL SMEAR STUDY				
RBC Morphology		Normal		
W.B.C Morphology		Normal		
Remark		-		
E.S.R				
Erythrocyte Sedimentation Rate		01	mm/hr	0 - 15
Method : ESR : Westergren~				

Method : Haemoglobin - Spectrophotometry, PlateletCount - FlowCytometry| HCT, MCH, MCHC - scattergram |MCV - Flowcytometry| Differential Count - Peroxidase & Microscopy | Morphology - Microscopy of fields stained smear.

*** END OF REPORT ***

DR. MILIND PATWARDHAN
M. D.
Consulting Pathologist

Thank you for the reference.
Individual laboratory investigations are never conclusive but should be used along with other relevant clinical examinations to achieve final diagnosis.

Medical Laboratory Report

KIRAN CHOKSI

PID NO: P112200924573
Age: 63.0 Year(s) Sex: Female

Reference:
Sample Collected At:
P.h Medical Centre(22)
Sai-rachna, Juhu Road, Near Santacruz Police Station, Santacruzw MumbaiZone: W-13a(22)
Processing Location:- Metropolis Healthcare Ltd,unit No409-416,4th Floor,commercial Building-1,kohinoor Mall,mumbai-70

VID: 220011000901334
Registered On: 24/12/2022 04:26 PM
Collected On: 24/12/2022 4:26PM
Reported On: 25/12/2022 07:43 AM

CBC Haemogram

Investigation	Observed Value	Unit	Biological Reference Interval
Erythrocytes			
Haemoglobin (Hb)	**9.6**	gm/dL	12.0-16
Erythrocyte (RBC) Count	**3.49**	mill/cu.mm	4.2-5.4
PCV (Packed Cell Volume)	**28.4**	%	37-47
MCV (Mean Corpuscular Volume)	**81.2**	fL	82-101
MCH (Mean Corpuscular Hb)	27.5	pg	27-34
MCHC (Mean Corpuscular Hb Concn.)	33.8	g/dL	31.5-36
RDW (Red Cell Distribution Width)	**14.4**	%	11.5-14.0
RBC Morphology			
Remark	Normochromic Normocytic		
Leucocytes			
Total Leucocytes (WBC) count	**3,500**	cells/cu.mm	4300-10300
Absolute Neutrophils Count	**1680**	/c.mm	2000-7000
Absolute Lymphocyte Count	1470	/c.mm	1000-3000
Absolute Monocyte Count	245	/c.mm	200-1000
Absolute Eosinophil Count	70	/c.mm	20-500
Absolute Basophil Count	35	/c.mm	20-100
Neutrophils	48	%	40-80
Lymphocytes	**42**	%	20-40
Monocytes	7	%	2.0-10
Eosinophils	2	%	1-6
Basophils	1	%	0-2
Platelets			
Platelet count	216	10^3 / µl	140-440
MPV (Mean Platelet Volume)	9.3	fL	7.8-11
PCT (Platelet crit)	0.202	%	0.2-0.5
PDW (Platelet Distribution Width)	17.0	%	9-17
Pathologist Remark	Leucopenia,Kindly correlate clinically		

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Current − Original / Original X100

3.50 − 3.36 / 3.36 X100 =

WBC - 4.16

LABORATORY TEST REPORT

PATIENT'S NAME	: **MRS. KIRAN CHOKSI**	Registered on	: **23/12/2022 11:09 AM**
Age / Sex	: **63 Years / Female**	Collected on	: **23/12/2022 11:11 AM**
Regn No.	: **212231069**	Reported on	: **23/12/2022 04:14 PM**
Ref. By	: **Dr. PANKAJ DHAWAN**	Int. Ref.	: **212231069**
SAMPLE TYPE	: **WHOLE BLOOD**		

COMPLETE BLOOD COUNT

INVESTIGATION		RESULT	UNIT	BIOLOGICAL REFERENCE INTERVAL
RBC				
Haemoglobin Levels	L	**9.6 ***	g/dl	11 - 16
R.B.C Count	L	**3.41 ***	x 10^6/uL	3.8 - 5.3
PCV	L	**27.9 ***	%	36 - 48
MCV		81.82	fL	80 - 99
MCH		28.15	Pg	27 - 32
MCHC		34.41	g/dL	31.5 - 34.5
RDW		12.8	%CV	11.5 - 14.5
PLATELETS				
Platelet Count		237	x 10^3 /uL	150 - 450
WBC				
W.B.C Count	L	**3.36 ***	x 10^3/uL	4.0 - 10.0
Neutrophils		47.7	%	40.0 - 80.0
Lymphocytes	H	**44.3 ***	%	20.0 - 40.0
Monocytes		5.7	%	2.0 - 10.0
Eosinophils		1.4	%	1.0 - 6.0
Basophils		0.9	%	0.0 - 2.0
Neutrophils (Absolute Count)		1.59	x 10^3 /uL	2.0 - 7.0
Lymphocytes (Absolute Count)		1.47	x 10^3/uL	1 - 5
Monocytes (Absolute Count)		0.19	x 10^3 /uL	0.2 - 1.0
Eosinophils (Absolute Count)		0.05	x 10^3 /uL	0.02 - 0.5
Basophils (Absolute Count)		0.03	x 10^3 /uL	0.0 - 0.1
PERIPHERAL SMEAR STUDY				
RBC Morphology		Normocytic Normochromic		
W.B.C Morphology		Normal		
Remark		-		

Method : Automated
Haemoglobin - Spectrophotometry, PlateletCount - FlowCytometry| HCT, MCH, MCHC - scattergram |MCV - Flowcytometry| Differential Count - Peroxidase & Microscopy | Morphology - Microscopy of fields stained smear.

*** END OF REPORT ***

Thank you for the reference.
Individual laboratory investigations are never conclusive but should be used along with other relevant clinical examinations to achieve final diagnosis.

DR. MILIND PATWARDHAN
M. D.
Consulting Pathologist