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. : 2854   **Distribution No.:** 159-G   **Month/Year:** March/2023
Instrument ID: 109YAXH03477

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: 01-05-2023[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	0.9	0.7	1.6	8.21	0.046	-5.94	0.2	0.1	0.007	0.90
RBC x10^6/µl	1	4.39	4.39	8.78	8.8	0.010	-0.10	0	0.04	0.003	-1.08
Hb g/dl	1	14	13.9	27.9	25.9	0.024	3.17	0.1	0.1	0.008	0.00
HCT%	1	40.1	40	80.1	80.5	0.180	-0.09	0.1	0.3	0.027	-0.54
MCV-fl	1	91.2	91	182.2	183.65	0.290	-0.19	0.2	0.3	0.025	-0.27
MCH-Pg	1	31.8	31.6	63.4	59	0.073	2.58	0.2	0.2	0.017	0.00
MCHC-g/dl	1	34.9	34.7	69.6	64.05	0.136	1.62	0.2	0.3	0.020	-0.34
Plt. x10^3/µl	1	185	185	370	293	1.455	2.08	0	4.5	0.344	-0.87
Retic %	2	2.6	2.5	5.1	8.15	0.186	-0.65	0.1	0.4	0.026	-1.16

P.S . Assesment

		YOUR REPORT	CONSENSUS REPORT
DLC%	3	Nrbcs=22 , Poly=49 L=47, E=02, Mono/Promono=01 , B1=00 P.M.=00, Mye=00, Meta=00, Other=00	Poly: 55-66, Lympho: 24-34, Mono: 1-4, Eosino: 1-3, blast/Promyelo/Myelo/Meta: 0-5
RBC Morphology	3	Microcytosis +, Hypochromia +, Anisocytosis +, Poiilocytosis Mild, Tear Drop Cells ++, Target Cells +	Predominantly: Normocytic/Normochromic; Moderate: Anisocytosis, Microcytosis, Hypochromia; Mild: Poikilocytosis , Target cells , Sickle shaped cells ,tear drop cells
Diagnosis	3	Thalassemia	Thalassemia/Haemoglobinopathy

COMBINED DATA VALUES OF TOTAL PARTICIPANTS

Test parameters	S.No.	Total participants covered in the current dist. 159--G	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 x10³/µl	1	248	248	87.5	88.31	4.44	3.63	8.06	8.06
RBC x10⁶/µl	1	248	248	79.84	87.9	10.48	6.05	9.68	6.05
Hb g/dl	1	248	248	88.71	92.34	4.84	3.63	6.45	4.03
HCT%	1	248	248	94.35	89.92	4.44	4.84	1.21	5.24
MCV-fl	1	248	248	96.77	91.53	2.42	3.23	0.81	5.24
MCH-Pg	1	248	247	91.9	94.74	6.07	0.4	2.03	4.86
MCHC-g/dl	1	248	248	94.76	90.73	4.84	2.82	0.4	6.45
Plt. x10³/µl	1	248	248	92.74	93.95	5.24	4.03	2.02	2.02
ReticCount%	2	248	216	91.2	84.26	5.56	9.26	3.24	6.48
PS Assessment	3	248	219	Satisfactory :90.74%, Borderline Sat. :8.06%, Unsatisfactory :1.20%					

*Comments:

1). Among Lab (EQA) : CBC result for *WBC & HB* unacceptable, please check calibration/human error.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 ($\overline{x}$-$\overline{y}$) 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-----------

Title	PT/ EQAS EVALUATION RECORD
Document Number	FRM.QCM.03
Version	02
Amendment No	00
Effective Date	02.06.2023

LUPIN DIAGNOSTICS
Good health starts here

Date of Investigation: 17|07|23

PT/EQAS Set Identification: 159- G

Date of PT/EQAS: March. 23

Acceptable/ Unacceptable Results — WBC, Hb, MCH, Plt.

Acceptable Result Range: —

Previous Trends/ Unacceptable Results from this Analyte/ Test:

No Trend.

Classification of Problems: (Please tick)
Clerical:

☐ Transcription error (may be pre- or post-analytical factors)

☐ Wrong method has been registered for analysis or method change not updated.

Details of Investigation:
None

Methodological

☐ Instrument function checks (e.g., temperatures, blank readings, pressures) not performed as necessary, or results not within acceptable range.

☐ Scheduled instrument maintenance not performed appropriately.

☐ Incorrect instrument calibration.

☐ Standards or reagents improperly reconstituted and stored, or inadvertently used beyond expiration date.

☐ Instrument probes misaligned.

☐ Problem with instrument data processing functions. The laboratory may need to contact the manufacturer to evaluate such problems.

☐ Problem in manufacture of reagents / standards, or with instrument settings specified by manufacturer

☐ Carry-over from previous specimen.

☐ Automatic pipettor not calibrated to acceptable precision and accuracy.

☐ Imprecision from result being close to detection limit of method.

☐ QC material not run within expiration date, or improperly stored.

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LUPIN DIAGNOSTICS
Good health starts here

☐ QC material not run at relevant analyte concentration.

☐ Result not within reportable range (linearity) for instrument / reagent system.

☐ Obstruction of instrument tubing / orifice by clot or protein.

☐ Incorrect incubation times.

Details of Investigation:

None

_____

_____

Technical

☐ EQA material improperly reconstituted.

☐ Testing delayed after reconstitution of EQA material (with problem from evaporation or deterioration).

☐ Sample not placed in proper order on instrument.

☐ Result released despite unacceptable QC data.

☐ QC data within acceptable limits but showed trend suggestive of problem with the assay.

☐ Inappropriate quality control limits / rules. If the acceptable QC range is too wide, the probability increases that a result will fail within the acceptable QC range yet exceed acceptable limits for EQA.

☐ Manual pipetting / diluting performed inaccurately, at an incorrect temperature or with incorrect diluent.

☐ Calculation error or result reported using too few significant digits.

☐ Secondary specimen tubes incorrectly labeled.

☐ In addition to above discipline specific errors may also occur

Details of Investigation:

None

_____

_____

Problem with PT/EQAS Material

☐ Matrix effects: The performance of some instrument / method combinations may be affected by the matrix of the PT/EQAS sample. This can be overcome to some extent by assessing participants in peer groups – to be done by the PT/EQAS provider.

☐ Non-homogenous test material due to variability infill volumes, inadequate mixing, or inconsistent heating of lyophilized specimens.

☐ Non-viable samples for microbiology PT/EQAS program.

☐ Haemolysis on an immune-haemtology program samples.

Details of Investigation:

None

_____

LUPIN DIAGNOSTICS
Good health starts here

Problem with PT/EQAS Evaluation

☐ Peer group not appropriate.

☐ Inappropriate target value: Target values developed from participant consensus can be inappropriate from non-homogeneous testing material or lingering ("masked") outliers. However, occasional inappropriate target values occur in every PT program. Inappropriate evaluation interval: An evaluation interval may be inappropriately narrow e.g. if ± 2 standard deviation units are used with an extremely precise method; the acceptable range may be much narrower than needed for clinical usefulness.

☐ Incorrect data entry by PT provider.

Details of Investigation:

None

No Explanation: Attributed to Random Error

Any Others (explain)

Summary of Investigation:
WBC unacceptable performance due to method of detection as mention in previous RCA Report.
other parameter IQC performance found satisfactory.

Was patient data affected? & Corrective action taken if Patient data was affected.

NO

Corrective/ Preventive action taken to prevent Reoccurrence
As part of corrective action ILC study perform bet NRL & HLM Maxcare lab. No major deviation found ILC found satisfactory.

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LUPIN DIAGN☼STICS
Good health starts here

Conclusions

Based on above findings concluded unacceptable performance due to transitional q sample performance monitor closely in next cycle.

Quality Manager/ Team Leader _(signature)_   Date: 17/07/23

Lab Head _(signature)_   Date: 17/07/23

LUPIN DIAGNOSTIC
Behind Zopadi Cantin,
Opp. Monica D.Ed. College
Savedi, Ahmednagar-414001

Lupin Diagnostics , (HLM Varad)

Inter laboratory comparison study report of Complete Blood count

Sr No	Parameters	Sample-1			
		Mrs. Kamal Takale			
		NRL	HLM Varad	%Diff	Reference range
1	RBC	3.23	3.29	-1.82	3.8-6
2	HB	9.50	9.60	-1.04	11.5-17
3	PCV	28.30	28.70	-1.39	35-52
4	MCV	87.50	87.10	0.46	76-100
5	MCH	29.30	29.00	1.03	27-34
6	MCHC	33.50	33.40	0.30	32-35
7	RDWCV	21.00	20.90	0.48	11.0-17
8	RDWSD	63.80	55.40	15.16	37-49
9	PLT	782.00	606.00	29.04	150-400
10	PCT	0.76	0.50	52.00	0.15-0.40
11	MPV	9.80	8.30	18.07	8.0-11
12	PDW	18.00	13.10	37.40	11.0-22
13	PLCC	267.00	131.00	103.82	44-140
14	PLCR	34.20	21.60	58.33	18-50
15	WBC	142.87	170.90	-16.40	3.5-10
16	NEUT	69.86	94.63	-26.18	1.6-7
17	LYMP	18.62	20.77	-10.35	1.0-3
18	MONO	7.79	8.66	-10.05	0.2-0.8
19	EOS	4.16	7.89	-47.28	0.0-0.50
20	BASO	0.00	0.00	0.00	0.0-0.15
21	LIC	42.44	38.95	8.96	0.0-0.10
22	NEUT%	69.60	71.70	-2.93	40-73
23	LYM%	18.50	15.70	17.83	15-45
24	MONO%	7.80	6.60	18.18	4.0-12
25	EOS%	4.10	6.00	-31.67	0.5-7
26	BASO%	0.00	0.00	0.00	0.0-2.0
27	LIC	42.30	29.50	43.39	0.0-0.10

Sr No	Parameters	Sample-2			
		Mr. Prabhakar G			
		NRL	HLM Varad	%Diff	Reference range
1	RBC	2.61	2.69	-2.97	3.8-6
2	HB	8.80	8.80	0.00	11.5-17
3	PCV	25.30	26.50	-4.53	35-52
4	MCV	96.90	98.50	-1.62	76-100
5	HCH	33.60	32.70	2.75	27-34
6	HCHC	34.70	33.20	4.52	32-35
7	RDWCV	23.20	23.60	-1.69	11.0-17
8	RDWSD	73.90	68.00	8.68	37-49
9	PLT	17.00	33.00	-48.48	150-400
10	PCT	0.01	0.03	-66.67	0.15-0.40
11	MPV	7.80	8.50	-8.24	8.0-11
12	PDW	14.50	9.60	51.04	11.0-22
13	PLCC	4.00	8.00	-50.00	44-140
14	PLCR	20.90	24.90	-16.06	18-50
15	WBC	5.93	9.15	-35.19	3.5-10
16	NEUT	1.97	8.14	-75.80	1.6-7

17	LYMP	0.27	0.32	-15.63	1.0-3
18	MONO	1.58	0.55	187.27	0.2-0.8
19	EOS	0.01	0.00	0.00	0.0-0.50
20	BASO	0.01	0.01	0.00	0.0-0.15
21	LIC	2.09	0.13	1507.69	0.0-0.10
22	NEUT%	51.50	90.20	-42.90	40-73
23	LYM%	6.90	3.60	91.67	15-45
24	MONO%	41.10	6.10	573.77	4.0-12
25	EOS%	0.30	0.00	0.00	0.5-7
26	BASO%	0.20	0.10	100.00	0.0-2.0
27	LIC	54.40	1.50	3526.67	0.0-0.10

Observations-
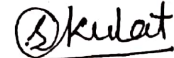
✓ >80% Clinical correlation noted in both samples.

✓ High % Difference noted due to statistical limitations.

Conclusion:

Based on obtained result recovery Inter laboratory comparison study successfully passed for CBC test parameter.

Documented By
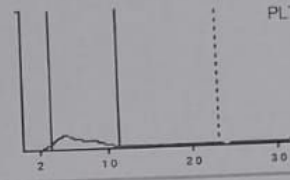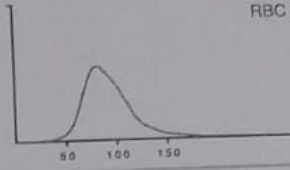(Mr. Mahesh B)

Approved by
(Dr. Sagar K)

Results

Recommended actions
Slide review

				Range		
RBC	2.69	L	10⁶/µL	3.80 - 6.00		
HGB	8.8	L	g/dL	11.5 - 17.0		
HCT	26.5	L	%	35.0 - 52.0		
MCV	98.5		µm³	76.0 - 100.0		
MCH	32.7		pg	27.0 - 34.0		
MCHC	33.2		g/dL	32.0 - 35.0		
RDW-CV	23.6	H	%	11.0 - 17.0		
RDW-SD	68.0	H	µm³	37.0 - 49.0		

Alarms

WBC
RBC LYM Interference
Abnormal Differentiation

Susp. Pathologies
Anemia
Anisocytosis
Thrombopenia
PLT aggregate ?
Lymphopenia
Neutrophilia
Left shift
Malaria P. falciparum ?

				Range		
PLT	33	L*	10³/µL	150 - 400		
PCT	0.03	l*	%	0.15 - 0.40		
MPV	8.5	*	µm³	8.0 - 11.0		
PDW	9.6	l*	µm³	11.0 - 22.0		
P-LCC	8	l	10³/µL	44 - 140		
P-LCR	24.9		%	18.0 - 50.0		

				Range		
WBC	9.15	*	10³/µL	3.50 - 10.00		

	#		Range	%		Range
NEU	8.14	H*	1.60 - 7.00	90.2	h*	40.0 - 73.0
LYM	0.32	L*	1.00 - 3.00	3.6	l*	15.0 - 45.0
MON	0.55	*	0.20 - 0.80	6.1	*	4.0 - 12.0
EOS	0.00	*	0.00 - 0.50	0.0	l*	0.5 - 7.0
BAS	0.01	*	0.00 - 0.15	0.1	*	0.0 - 2.0
LIC	0.13	h*	0.00 - 0.10	1.5	h*	0.0 - 1.0

Slide Review

Neutrophil

Lymphocyte

Monocyte

Eosinophil

Basophil

Atypical Lymphocyte

Other

Myeloblast

Promyelocyte

Myelocyte

Metamyelocyte

Blast

Target Cell

Sickle Cell

Anisocytosis

Hypochromia

Polychromasia

Poikilocytosis

Microcytosis

Macrocytosis

Platelet Clumps

Reviewed on _____ by _____ Signature : _____

ILC - MPL Result

Run Date 07/13/2023 06:57:51 PM

Last Name **Prabhakar . Gande**
First Name
Gender
Patient ID
Birth Date
Sample comments

Operator LUPIN
Sample ID HA00342684
Rack/Pos 041731/1
Department
Physician
Type Standard

Age

Recommended actions

Slide review
Alerts
WBC
RBC LYM Interference
MON Interference
Abnormal Differentiation
PLT
RBC PLT Interference
Susp. Pathologies
Anemia
Anisocytosis
Thrombopenia
PLT PLT aggregate ?
Lymphopenia
Monocytosis
Large Immature Cells
Left shift

				Range
RBC	2.61	L	10⁶/µL	3.80 - 6.00
HGB	8.8	L	g/dL	11.5 - 17.0
HCT	25.3	L	%	35.0 - 52.0
MCV	96.9		µm³	76.0 - 100.0
MCH	33.6		pg	27.0 - 34.0
MCHC	34.7		g/dL	32.0 - 35.0
RDW-CV	23.2	H	%	11.0 - 17.0
RDW-SD	73.9	H	µm³	37.0 - 49.0
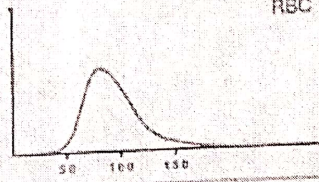
				Range
PLT	17	L*	10³/µL	150 - 400
PCT	0.01	l*	%	0.15 - 0.40
MPV	7.8	l*	µm³	8.0 - 11.0
PDW	14.5	*	µm³	11.0 - 22.0
P-LCC	4	l*	10³/µL	44 - 140
P-LCR	20.9	*	%	18.0 - 50.0
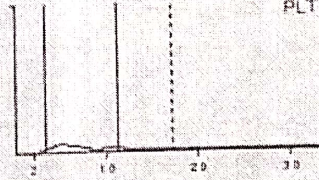
				Range
WBC	5.93	*	10³/µL	3.50 - 10.00

	#		Range	%		Range
NEU	1.97	*	1.60 - 7.00	51.5	*	40.0 - 73.0
LYM	0.27	L*	1.00 - 3.00	6.9	l*	15.0 - 45.0
MON	1.58	H*	0.20 - 0.80	41.1	h*	4.0 - 12.0
EOS	0.01	*	0.00 - 0.50	0.3	l*	0.5 - 7.0
BAS	0.01	*	0.00 - 0.15	0.2	*	0.0 - 2.0
LIC	2.09	H*	0.00 - 0.10	54.4	H*	0.0 - 1.0

Slide Review

Neutrophil	Myeloblast	Anisocytosis
Lymphocyte	Promyelocyte	Hypochromia
Monocyte	Myelocyte	Polychromasia
Eosinophil	Metamyelocyte	Poikilocytosis
Basophil	Blast	Microcytosis
Atypical Lymphocyte	Target Cell	Macrocytosis
Other	Sickle Cell	Platelet Clumps

Reviewed on _____ by _____ Signature : _____

Results

Run Date 12/07/2023 12:12:55 PM   **Operator** ABX

Last Name		**Sample ID** HA00342671
First Name		**Rack/Pos**
Gender	**Age**	**Department**
Patient ID		**Physician**
		Type Standard
Birth Date		
Sample comments		

				Range
RBC	3.29	L	10⁹/µL	3.80 - 6.00
HGB	9.6	l	g/dL	11.5 - 17.0
HCT	28.7	L	%	35.0 - 52.0
MCV	87.1		µm³	76.0 - 100.0
MCH	29.0		pg	27.0 - 34.0
MCHC	33.4		g/dL	32.0 - 35.0
RDW-CV	20.9	H	%	11.0 - 17.0
RDW-SD	55.4	H	µm³	37.0 - 49.0
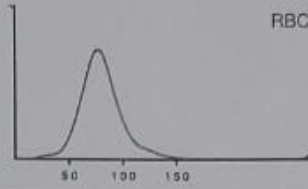
				Range
PLT	606	H*	10³/µL	150 - 400
PCT	0.50	h*	%	0.15 - 0.40
MPV	8.3	*	µm³	8.0 - 11.0
PDW	13.1	*	µm³	11.0 - 22.0
P-LCC	131		10³/µL	44 - 140
P-LCR	21.6		%	18.0 - 50.0
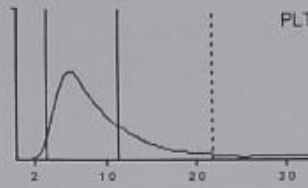
				Range
WBC	170.90	H*	10³/µL	3.50 - 10.00

	#		Range	%		Range
NEU	94.63	H*	1.60 - 7.00	71.7	*	40.0 - 73.0
LYM	20.77	H*	1.00 - 3.00	15.7	*	15.0 - 45.0
MON	8.66	H*	0.20 - 0.80	6.6	*	4.0 - 12.0
EOS	7.89	H*	0.00 - 0.50	6.0	*	0.5 - 7.0
BAS	0.00	*	0.00 - 0.15	0.0	*	0.0 - 2.0
LIC	38.95	H*	0.00 - 0.10	29.5	H*	0.0 - 1.0
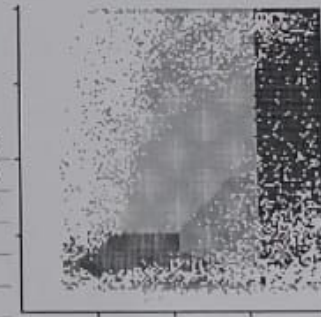
Recommended actions
Slide review

Alarms
WBC
RBC Background Noise
LYM Interference
MON Interference
PLT
RBC PLT Interference

Susp. Pathologies
Anisocytosis
Thrombocytosis
PLT aggregate or NRBC
PLT Leukocytosis
Lymphocytosis
Neutrophilia
Eosinophilia
Monocytosis
Large Immature Cells
Left shift
Atypic Lymphocytes
Malaria P. falciparum ?
Malaria P. vivax ?

Slide Review

Neutrophil	Myeloblast	Anisocytosis
Lymphocyte	Promyelocyte	Hypochromia
Monocyte	Myelocyte	Polychromasia
Eosinophil	Metamyelocyte	Poikilocytosis
Basophil	Blast	Microcytosis
Atypical Lymphocyte	Target Cell	Macrocytosis
Other	Sickle Cell	Platelet Clumps

Reviewed on _____ by _____ Signature : _____

Results

Last Name **Komal Talcale**
First Name
Gender
Patient ID
Age
Birth Date
Sample comments

Operator LUPIN
Sample ID HA00342671
Rack/Pos 041731/2
Department
Physician
Type Standard

				Range
RBC	3.23	L	10⁶/μL	3.80 - 6.00
HGB	9.5	L	g/dL	11.5 - 17.0
HCT	28.3	L	%	35.0 - 52.0
MCV	87.5		um³	76.0 - 100.0
MCH	29.3		pg	27.0 - 34.0
MCHC	33.5		g/dL	32.0 - 35.0
RDW-CV	21.0	H	%	11.0 - 17.0
RDW-SD	63.8	H	μm³	37.0 - 49.0
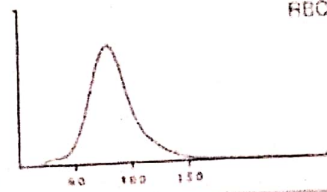
				Range
PLT	782	H*	10³/μL	150 - 400
PCT	0.76	h*	%	0.15 - 0.40
MPV	9.8	*	um³	8.0 - 11.0
PDW	18.0	*	μm³	11.0 - 22.0
P-LCC	267	h	10³/μL	44 - 140
P-LCR	34.2		%	18.0 - 50.0
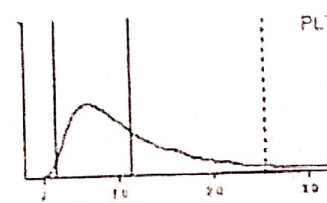
			Range
WBC	142.87	H*	10³/μL	3.50 - 10.00

	#		Range	%		Range
NEU	69.86	H*	1.60 - 7.00	69.6	*	40.0 - 73.0
LYM	18.62	H*	1.00 - 3.00	18.5	*	15.0 - 45.0
MON	7.79	H*	0.20 - 0.80	7.8	*	4.0 - 12.0
EOS	4.16	H*	0.00 - 0.50	4.1	*	0.5 - 7.0
BAS	0.00	*	0.00 - 0.15	0.0	*	0.0 - 2.0
LIC	42.44	H*	0.00 - 0.10	42.3	H*	0.0 - 1.0
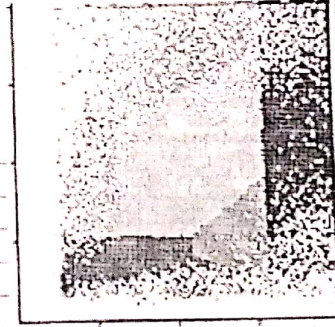
Recommended actions
Slide review
Alert(s)
 WBC
 RBC Background Noise
 LYM Interference
 MON Interference
 Abnormal Differentiation
 PLT
 RBC PLT Interference
Susp. Pathologies
 Anemia
 Anisocytosis
 Thrombocytosis
 PLT aggregate or NRBC ?
 Leukocytosis
 Lymphocytosis
 Neutrophilia
 Eosinophilia
 Monocytosis
 Large Immature Cells
 Left shift
 Atypic Lymphocytes

Slide Review

Neutrophil	Myeloblast	Anisocytosis
Lymphocyte	Promyelocyte	Hypochromia
Monocyte	Myelocyte	Polychromasia
Eosinophil	Metamyelocyte	Poikilocytosis
Basophil	Blast	Microcytosis
Atypical Lymphocyte	Target Cell	Macrocytosis
Other	Sickle Cell	Platelet Clumps

Reviewed on _____ by _____ Signature : _____

14 Jul 2023 1:22 pm