HEMATOLOGY

ALL METHOD REPORT

Cycle-12/2023
Round -2

Lab Code: 2457

Date: 29/04/2023

Complete Blood Count (CBC)

Parameters	No.of Participants	Robust Mean	Robust Standard deviation (SD)	Uncertainty of Assign Values	Range (± 2 SD)	Your Value	Z Score
Hb gm/dl	282	12.0	0.4	0.03	11.3-12.8	11.7	-0.8
WBC × 10^3/µl.	280	10.6	0.7	0.05	9.2-12.0	*6.5	-5.9
RBC × 10^6/µl.	281	4.1	0.1	0.01	3.9-4.3	4.2	0.6
Hct%	280	36.5	2.6	0.19	31.2-41.8	35.3	-0.5
MCV fl.	280	88.4	5.0	0.37	78.4-98.4	84.9	-0.7
MCH pg.	280	29.2	0.9	0.07	27.4-31.0	28.1	-1.2
MCHC gm/dl	280	32.9	2.1	0.16	28.7-37.1	33.2	0.1
Platelet × 10^3/µl.	282	272.0	21.4	1.59	229.2-314.8	263	-0.4

Interpretation of Z Score:

Z Score Value(+/-)	$[Z] \leq 2.0$	$2.0 < [Z] < 3.0$	$[Z] \geq 3.0$
Interpretation	Satisfactory Performance No signal	Questionable Warning Signal	Unsatisfactory Performance action Signal

Peripheral Blood Smear(PBS):

	Your Result	Consensus Result
DLC	M-01, Meta-02, S-02, P-83, L-09, E-02, Mono-01	P-73.8-89.2, L-6.4-15.7, Prom-1.5-20.4, S-1.3-8.8
Morphology	RBC- Normocytic hypochromic. Inclusions seen in RBCs (Cocci +). WBC- neutrophilic leucocytosis and shift to left. Neutrophils show toxic granules. Few reactive lymphocytes seen. Platelets- adequate	ΔNeutrophilia (250/254) ΔLeukocytosis (245/254) ΔNormocytic/ Normochromic (179/254) ΔHypochromia/Hypochromic (137/254) ΔMicrocytic/ Microcytosis/ Microcytes (130/254)
Diagnosis	Neutrophilic leucocytosis with toxic granulation (Cocci +). Pneumococcal pneumonia may be considered.	Neutrophilic Leukocytosis with Anemia/ Neutrophilia/ Leucocytosis

Legends	(*) Excluded From Group Mean	{.} Not Reported	(#)Late Result Submission	($)Reported in other Unit

Chief Coordinator

Dr. Sanjay Mehrotra

Checked By:

Doc. No.: ASS / FR / 06 / R 01 / Dt: 05.01.2022

End of Report

Programme Director

Dr.Bandana Mehrotra

Page 1 of 5

Continuous Efforts And Execution Leads To Quality Excellence

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HEMATOLOGY

METHOD WISE REPORT

Cycle-12/2023
Round -2

Lab Code: 2457

Date: 29/04/2023

Complete Blood Count (CBC)

Parameters	Method Group	No.of Participants	Method Wise Robust Mean	Method Wise Robust Standard deviation (SD)	Method Wise Uncertainty of Assign Values	Method Wise Range (± 2 SD)	Your Value	Method Wise Z Score
Hb gm/dl	Photometric	190	12.0	0.3	0.03	11.4-12.6	11.7	-1.0
WBC × 10³/µL	Electrical impedance	172	10.6	0.7	0.07	9.2-12.0	*6.5	-5.9
RBC × 10⁶/µl.	Electrical impedance	191	4.1	0.1	0.01	3.9-4.3	4.16	0.6
Hct%	Calculated	184	36.6	2.6	0.24	31.5-41.8	35.3	-0.5
MCV fl.	Calculated	131	88.6	5.4	0.59	77.9-99.3	84.9	-0.7
MCH pg.	Calculated	194	29.1	0.9	0.08	27.3-30.8	28.1	-1.1
MCHC gm/dl	Calculated	196	32.7	2.1	0.19	28.5-36.8	33.2	0.2
Platelet × 10³/µl.	Electrical impedance	187	272.5	20.7	1.89	231.1-313.9	263	-0.5

Interpretation of Z Score:

Z Score Value(+/-)	$[Z] \leq 2.0$	$2.0 < [Z] < 3.0$	$[z] \geq 3.0$
Interpretation	Satisfactory Performance No signal	Questionable Warning Signal	Unsatisfactory Performance action Signal

Legends	(*) Excluded From Group Mean	{.} Not Reported	(#)Late Result Submission	($)Reported in other Unit

Chief Coordinator

Dr.Sanjay Mehrotra

Checked By

Prepared By: PS

Programme Director

Dr.Bandana Mehrotra

End of Report

Doc. No.: ASS / FR / 06A / R 01 / Dt: 05.01.2022

Address: B-171, Nirala Nagar, Lucknow - 226 020

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Quality Assurance Program RML

HEMATOLOGY

METHOD WISE REPORT

Cycle-12/2023
Round -2

Lab Code: 2457

Date: 29/04/2023

Complete Blood Count (CBC)

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RBC × 10^6/µL	Electrical impedance	191	4.1	0.1	0.01	3.9-4.3	4.16	0.6
Hct%	Calculated	184	36.6	2.6	0.24	31.5-41.8	35.3	-0.5
MCV fL.	Calculated	131	88.6	5.4	0.59	77.9-99.3	84.9	-0.7
MCH pg.	Calculated	194	29.1	0.9	0.08	27.3-30.8	28.1	-1.1
MCHC gm/dl	Calculated	196	32.7	2.1	0.19	28.5-36.8	33.2	0.2
Platelet × 10^3/µL	Electrical impedance	187	272.5	20.7	1.89	231.1-313.9	263	-0.5

Interpretation of Z Score:

Z Score Value(+/-)	[Z] ≤ 2.0	2.0< [Z] < 3.0	[Z] ≥ 3.0
Interpretation	Satisfactory Performance No signal	Questionable Warning Signal	Unsatisfactory Performance action Signal

Legends	(*) Excluded From Group Mean	{.} Not Reported	(#)Late Result Submission	($)Reported in other Unit

Chief Coordinator

Dr.Sanjay Mehrotra

Checked By

Prepared By: PS

Programme Director

Dr.Bandana Mehrotra

End of Report

Page 2 of 5

Doc. No.: ASS / FR / 06A / R 01 / Dt.: 05.01.2022

RML Research Foundation

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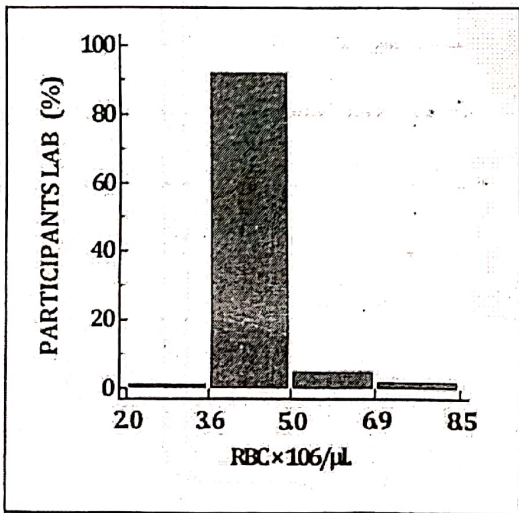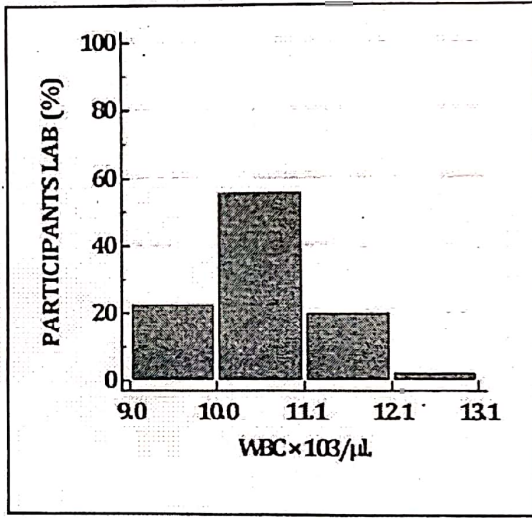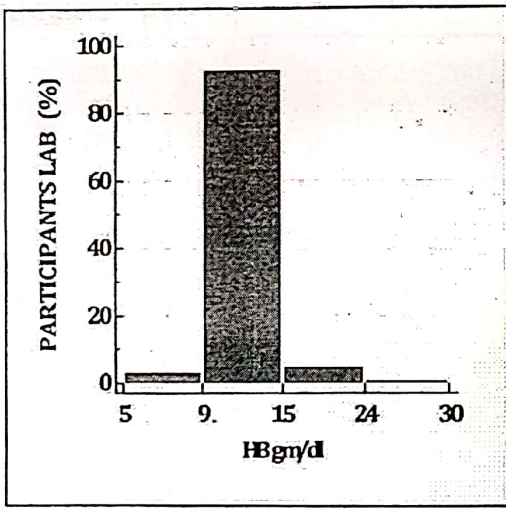
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HEMATOLOGY

GRAPHICAL REPORT

Cycle - 12/2023
Round -2

Date: 29/04/2023

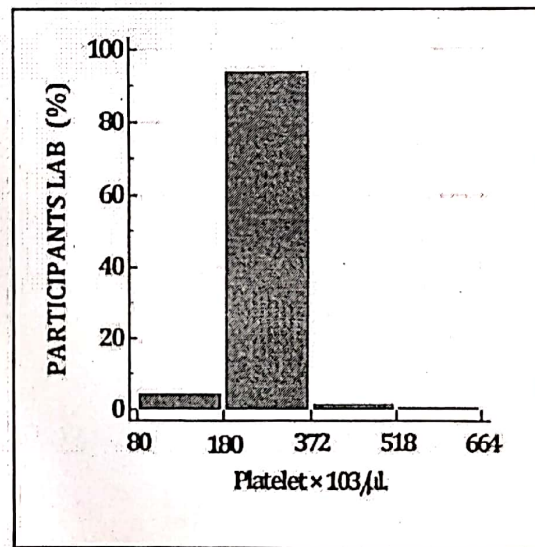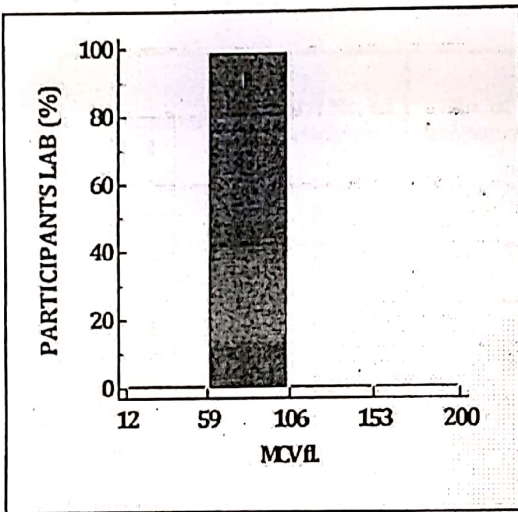

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HEMATOLOGY

GRAPHICAL REPORT

Cycle - 12/2023
Round -2

Date: 29/04/2023

Continuous Efforts And Execution Leads To Quality Excellence

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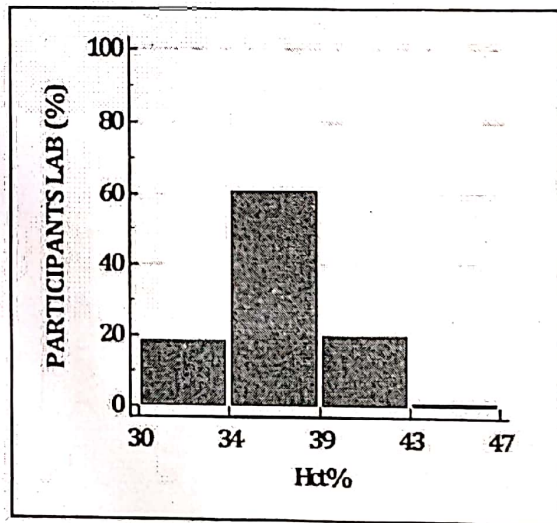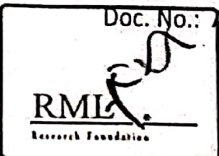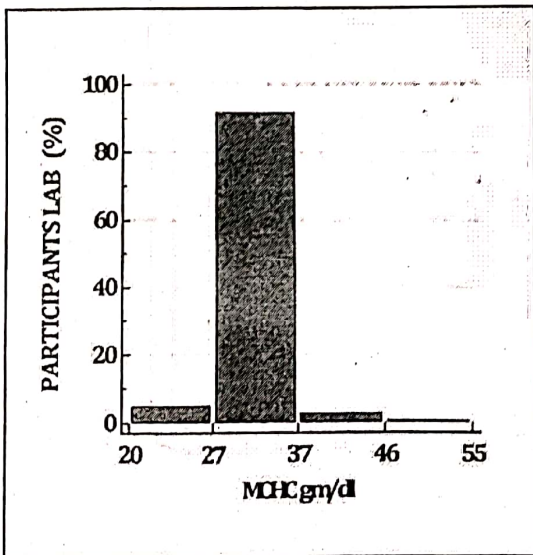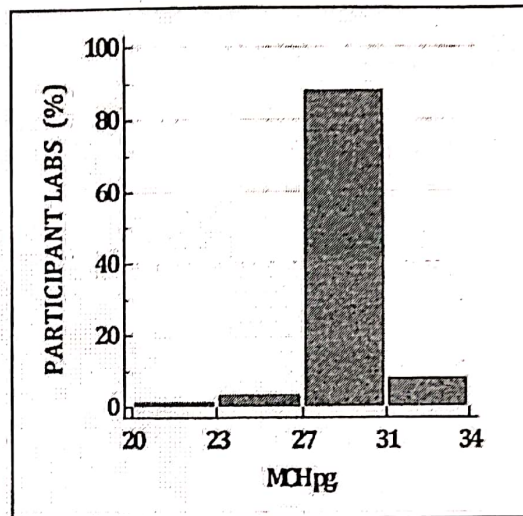
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Hematology

ALL PARTICIPANTS COMPLETE DATA REPORT

Cycle - 12/2023
Round No - 2

Date: 29/04/2023

Note:- This report is only for information about the participant's performance in the particular round.

Parameters	Total No. of Participants	No. of Responses	No of Participant Excluded from Robust Group Mean	No. of Participants Z Score b/w 0.0 - 2	No. of Participants Z Score b/w 2.1 - 2.9	No. of Participants Z Score >3
Hb gm/dl	328	282	38	231	13	38
WBC × 10^3/μl.	328	280	91	174	15	91
RBC × 10^3/μl.	328	281	49	205	27	49
HCT%	328	280	24	244	12	24
MCV fl.	328	280	3	268	9	3
MCH pg.	328	280	12	253	15	12
MCHC gm/dl	328	280	5	266	9	5
Platelet × 10^3/μl.	328	282	13	257	12	13

End of Report

Page 5 of 5

Doc. No.: ASS / FR / 01 / R 00 / Dt.: 01.07.2012

teñet
DIAGNOSTICS

PT EXCEPTION INVESTIGATION FORM

SURVEY INFORMATION – PROFICIENCY TESTING			
Department Name:	Hematology	**PT/EQA Provider and #:**	R ML EQAS-Round-02
Survey Name:	Cycle-12 Round-02	**Analyzer Name/Model:**	YUMI3EN H500
Date Survey Received:	21-03-2023	**Date Analysis Performed:**	27-03-2023
Date Survey Results Submitted:	27-03-2023	**Date Evaluations Available:**	10-05-2023
Previous Survey Problems (If yes, explain):			
Investigation Performed By:	P. Eswar	**Date:**	11-05-2023

Unacceptable PT/EQA Panel:Date of Repeat testing:

Specimen No.	Analyte	Reported Result	Repeated Result	Intended Result/Peer Group
CYCLE-12 Round-02	WBC	6.5 10³/µl	9.9 10³/µl	10.6

tenet
DIAGNOSTICS

ROOT CAUSE ANALYSIS	YES	NO	N/A
PRE-ANALYTICAL ERRORS:			
1. Were proficiency testing materials received in the laboratory without delay? Please describe any delivery issues. Comments:	☑	☐	☐
2. Were specimens shipped and stored appropriately according to temperature requirements? Comments:	☑	☐	☐
3. Did all EQA vials arrive intact (i.e. no missing, broken or leaking specimens) If not, did you contact the PT provider? Comments:	☑	☐	☐
4. Did you prepare/reconstitute/dilutePT specimens as indicated by the kit instructions? Comments:	☑	☐	☐
5. If there were special instructions provided in the kit, were they followed? Comments:	☑	☐	☐
6. Were the correct tests performed on the correct specimen(s)? Comments:	☑	☐	☐
7. Was routine maintenance of instruments/equipment performed as scheduled (daily, weekly, monthly, etc.)? Comments:	☑	☐	☐
8. Did you check lot numbers and storage conditions of kits, reagents, and materials used to perform testing on samples? Comments:	☑	☐	☐
9. Were all expiration dates verified before sample testing (Controls, reagents, etc.)? Comments:	☑	☐	☐

Aruna M

ANALYTICAL ERRORS:	YES	NO	N/A
1. Did you review the current and past PT event for bias, shifts and trends? If present, were investigations performed and what were the outcomes? Comments:	☑	☐	☐
2. Did you evaluate the instrument/method for any problems prior to or after the PT event? Describe any problems identified. Comments:	☑	☐	☐
3. Was the calibration at the time of the PT event reviewed for acceptability? If not acceptable, comment:	☑	☐	☐
4. How do you establish your Quality Control (QC) mean and ranges? ☐ Lab established ☐ Use manufacturer's Comments:	☑ Not applicable		
5. Were all QC levels for this analyte within acceptable range(s) on the day the survey was run? Comments:	☑	☐	☐
6. Are Westgard QC rules used? If so which ones? Comments:	☑	☐	☐
7. Were QC/Levy Jennings charts reviewed for any trends, shifts and/or bias? Comments:	☑	☐	☐
8. Does your laboratory track precision by monitoring Coefficient of Variation (CV) for this analyte? If yes, was your CV acceptable at the time of the survey? Comments:	☑	☐	☐

Aruna U

Question	YES	NO	N/A
9. If manual calculation was performed for this analyte was it checked for accuracy? (dilutions, formula etc.) Comments:	☑	☐	☐
10. Are questionable results reviewed by supervisor/pathologist before reporting? Comments:	☑	☐	☐
11. Was the instrument or reagent manufacturer contacted? Comments:	☑	☐	☐
POST ANALYTICAL ERRORS:	YES	NO	N/A
1. Were the results correctly transcribed from the instrument print-out/ worksheets to the PT Result Form? Comments:	☑	☐	☐
2. Did you verify that the electronic results submitted matched the PT result form (i.e. was the provider website checked for accuracy of results submitted?) Comments:	☑	☐	☐
3. Were the correct instrument/method/reagentcodes submitted to the PT provider? Comments:	☑	☐	☐
4. Were the correct units reported? Comments:	☑	☐	☐
5. Were results reported to the correct decimal place? Comments:	☑	☐	☐
6. Were your results graded in the appropriate peer group? Comments:	☑	☐	☐

]

Aruna.K

teñet
DIAGNOSTICS

7. Did you select the correct result code for photographic images and/or microscopic examinations?	✓	☐	☐

Comments:

INVESTIGATIVE ACTIONS AND ROOT CAUSE: Briefly discuss what actions were taken in this investigation and what you believe is the primary cause of this PT problem.

WBC counts (results) not match wild will pregroup maybe Occured due to random error. Did QC, Calbiration the machine and reported the WBC count. Now results matched with the Pregroup.

Was Personnel training/competency reviewed? Staff education or re-training conducted, *as appropriate?*

Comments: Comptent staff has performed testing and reviewed by Pathologist.

Type of Error:

☐ Methodological Survey evaluation problem

☐ Technical

☐ Clerical

☐ _____

☑ Others (explain)

Random error

FUTURE PREVENTATIVE MEASURES/ ACTIONS: Briefly discuss how you will prevent this problem from occurring in the future.

NA

tenet
DIAGNOSTICS

Investigated by: (Sign & date)	Lab Director (Sign & date)	Verified by QM (Sign & date)

Aruna-ll 05.2023

P. Reddy 11.05.2023

11.05.2023

Table for supporting documents:

Attachment	Description of attachments
TC	Repated Result or atteched

Aruna-ll

Run Date 11/05/2023 07:49:55 AM

Operator TENET

Last Name
First Name
Gender
Patient ID
Date of birth
Sample comments

Age

Sample ID RML QAP ROUND-2
Department
Physician
Type Standard

				Range	
RBC	7.08	H	10⁶/µL	3.80 - 6.00	
HGB	20.1	H	g/dL	11.5 - 17.0	
HCT	60.6	H	%	35.0 - 52.0	
MCV	85.6		µm³	76.0 - 100.0	
MCH	28.4		pg	27.0 - 34.0	
MCHC	33.2		g/dL	32.0 - 35.0	
RDW-CV	15.0		%	11.0 - 17.0	
RDW-SD	45.4		µm³	37.0 - 49.0	

RBC

				Range	
PLT	889	H*	10³/µL	150 - 400	
PCT	0.97	h*	%	0.15 - 0.40	
MPV	10.9	*	µm³	8.0 - 11.0	
PDW	12.5	*	µm³	11.0 - 22.0	
P-LCC	255	h	10³/µL	44 - 140	
P-LCR	28.7		%	18.0 - 50.0	

PLT

				Range	
WBC	9.90	*	10³/µL	3.50 - 10.00	

DIF

	#		Range	%		Range
NEU	1.12	L*	1.60 - 7.00	11.4	l*	40.0 - 73.0
LYM	0.13	L*	1.00 - 3.00	1.3	l*	15.0 - 45.0
MON	0.00	l*	0.20 - 0.80	0.0	l*	4.0 - 12.0
EOS	8.52	H*	0.00 - 0.50	87.2	h*	0.5 - 7.0
BAS	0.01	*	0.00 - 0.15	0.1	*	0.0 - 2.0
LIC	0.12	h*	0.00 - 0.10	1.2	h*	0.0 - 1.0

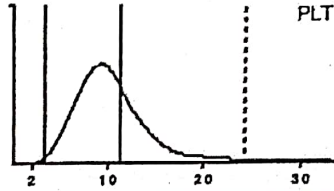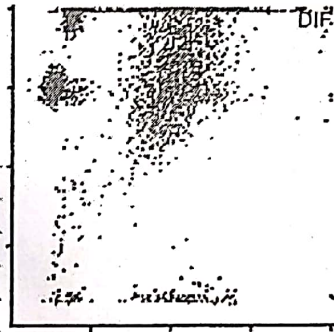**Recommended actions**
Slide review
Susp. Pathologies
Erythrocytosis
Thrombocytosis
PLT aggregate ?
Lymphopenia
Neutropenia
Eosinophilia

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 _____ N. Srin _____ Signature : Aruna. U
11/05/2023   11.05.2023

Run Date 11/05/2023 07:22:18 AM   **Operator** TENET

Name ABXdifftrol L   **Sample ID** PX441L
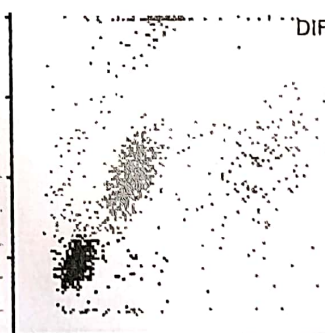**Level** Low   **Exp. date** 05/07/2023
Lot number PX441L

			Range
RBC	2.27	10⁶/µL	2.16 - 2.48
HGB	5.8	g/dL	5.4 - 6.2
HCT	17.5	%	16.2 - 19.2
MCV	77.0	µm³	71.5 - 81.5
MCH	25.5	pg	23.0 - 27.0
MCHC	33.1	g/dL	29.7 - 35.7
RDW-CV	16.2	%	12.0 - 20.0
RDW-SD	42.8	µm³	37.0 - 53.0

			Range
PLT	69	10³/µL	48 - 88
MPV	10.9	µm³	7.1 - 11.1

Alarms

RBC

PLT

DIF
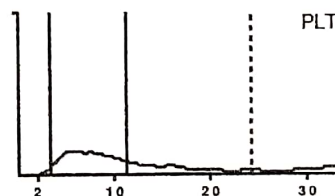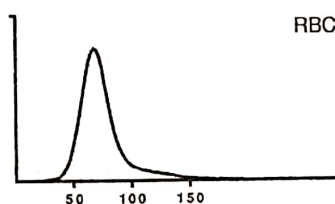
			Range
WBC	2.94	10³/µL	2.50 - 3.30

	#	Range	%	Range
NEU	1.39	0.84 - 1.54	47.1	31.2 - 51.2
LYM	1.18	0.88 - 1.54	40.3	29.7 - 53.7
MON	0.15	0.00 - 0.42	5.1	0.0 - 14.4
EOS	0.21	0.00 - 0.36	7.2	0.0 - 12.2
BAS	0.01	0.00 - 0.22	0.3	0.0 - 7.6

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 _N·Sriou_ 11/05/2023 by _(signature)_ 11/5/23 Signature :

1

Run Date	11/05/2023 07:25:09 AM	**Operator**	TENET
Name	ABXdifftrol N	**Sample ID**	PX441N
Level	Normal	**Exp. date**	05/07/2023
Lot number	PX441N		

			Range	
RBC	4.62	10⁶/μL	4.39 - 4.79	
HGB	13.1	g/dL	12.7 - 13.7	
HCT	40.1	%	37.9 - 41.9	
MCV	86.7	μm³	82.0 - 92.0	
MCH	28.4	pg	26.8 - 30.8	
MCHC	32.8	g/dL	30.1 - 36.1	
RDW-CV	14.9	%	11.0 - 19.0	
RDW-SD	44.5	μm³	38.0 - 54.0	
			Range	
PLT	236	10³/μL	210 - 270	
MPV	10.4	μm³	7.3 - 11.3	

Alarms

RBC

PLT

DIF
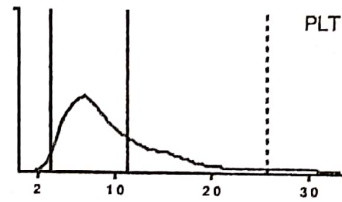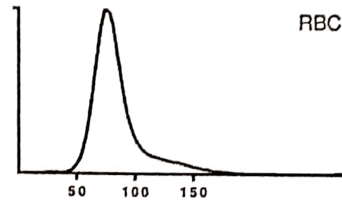
			Range	
WBC	8.07	10³/μL	7.20 - 9.20	

	#	Range	%	Range
NEU	4.16	2.97 - 4.77	51.6	37.2 - 57.2
LYM	3.23	2.74 - 4.14	40.0	34.0 - 50.0
MON	0.38	0.00 - 0.80	4.6	0.0 - 9.8
EOS	0.28	0.00 - 0.48	3.5	0.0 - 5.8
BAS	0.02	0.00 - 0.50	0.3	0.0 - 6.0

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 ___N. Sriya___ 11/05/23 by _____ Signature :

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