



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



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

EQAP CODE No. : 803

Distribution No.: 153-A

Month/Year: July/2021

Instrument ID: Sysmex B 2607

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: 25-07-2021[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 | 3.9 | 3.6 | 7.5 | 6.9 | 0.0290 | 0.71 | 0.3 | 0.1 | 0.0050 | 2.45 |
| RBC x10 ⁶ /µl | 1 | 4.19 | 4.18 | 8.37 | 8.28 | 0.0060 | 0.53 | 0.01 | 0.03 | 0.0020 | -0.67 |
| Hb g/dl | 1 | 10.7 | 10.6 | 21.3 | 20.6 | 0.0130 | 1.57 | 0.1 | 0.1 | 0.0060 | 0.00 |
| HCT% | 1 | 34.5 | 34.4 | 68.9 | 66.1 | 0.1080 | 0.90 | 0.1 | 0.2 | 0.0130 | -0.45 |
| MCV-fl | 1 | 82.3 | 82.3 | 164.6 | 159.7 | 0.2100 | 0.77 | 0 | 0.2 | 0.0200 | -0.67 |
| MCH-Pg | 1 | 25.6 | 25.3 | 50.9 | 50 | 0.0410 | 0.81 | 0.3 | 0.2 | 0.0110 | 0.67 |
| MCHC-g/dl | 1 | 31.1 | 3.07 | 34.17 | 62.4 | 0.1010 | -9.07 | 28.03 | 0.2 | 0.0130 | 93.86 |
| Plt. x10 ³ /µl | 1 | 118 | 114 | 232 | 276 | 1.08 | -1.42 | 4 | 5 | 0.33 | -0.17 |
| Retic % | 2 | 3.5 | 3 | 6.5 | 2.5 | 0.05 | 2.84 | 0.5 | 0.13 | 0.01 | 3.33 |

P.S . Assesment

| YOUR REPORT | | CONSENSUS REPORT | |
|----------------|---|--|---|
| DLC% | 3 | Nrbcs=05 , Poly=10/16/0 L=0, E=01, Mono/Promono=0 , B1=21 P.M.=06, Mye=16, Meta=30, Other= | Poly: 30 - 60, Blast: 5 - 30, Myelo: 5 - 20, Meta/nRBC: 1 - 15, Promyelo/Eos/Baso/Lympho/Mono: 0 - 5 |
| RBC Morphology | 3 | Ncnc, pencil shaped cells +, mild anisocytosis | Predominantly: Normocytic/Normochromic; Moderate: Anisocytosis, Microcytosis, Hypochromia; Mild: Macrocytosis, Poikilocytosis |
| Diagnosis | 3 | CML-Blast crisis phase | Chronic Myeloid Leukemia (Blast crisis) / Acute Myeloid Leukemia |

COMBINED DATA VALUES OF TOTAL PARTICIPANTS

| Test parameters | S.No. | Total participants covered in the current dist. | 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 /µl | 1 | 360 | 358 | 88.55 | 89.66 | 2.79 | 1.96 | 8.66 | 8.1 |
| RBC x10 ⁶ /µl | 1 | 360 | 358 | 87.71 | 88.55 | 6.42 | 6.98 | 5.87 | 4.47 |
| Hb g/dl | 1 | 360 | 358 | 91.34 | 96.37 | 4.19 | 3.07 | 4.47 | 0.56 |
| HCT% | 1 | 360 | 358 | 92.46 | 71.51 | 5.03 | 20.39 | 2.51 | 7.82 |
| MCV-fl | 1 | 360 | 358 | 93.02 | 92.46 | 3.91 | 2.79 | 3.07 | 4.75 |
| MCH-Pg | 1 | 360 | 358 | 87.71 | 94.41 | 6.42 | 2.51 | 5.87 | 2.79 |
| MCHC-g/dl | 1 | 360 | 358 | 95.25 | 89.39 | 1.68 | 7.82 | 3.07 | 2.79 |
| Plt. x10 ³ /µl | 1 | 360 | 358 | 92.18 | 92.46 | 5.87 | 4.75 | 1.96 | 2.79 |
| ReticCount% | 2 | 360 | 335 | 91.64 | 84.78 | 4.48 | 9.85 | 3.28 | 5.37 |
| PS Assessment | 3 | 360 | 343 | Acceptable:98.2%,Warning Signal:1.5%,Unacceptable :0.3% | | | | | |

***Comments:**

- 1). Among Lab (EQA) :** CBC result for **MCHC** unacceptable, may be due to random/human error
- 2). Within Lab (IQA) :** **MCHC & RETIC** unacceptable, please check precision/human error. Remaining 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.

Report authorized by,



Dr. Seema Tyagi (Prof.)

PT Co-ordinator: ISHTM-AIIMS-EQAP

Department of Hematology, AIIMS, New Delhi

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



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



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

EQAP CODE No. : 803

Distribution No.: 152-A

Month/Year: January/2021

Instrument ID: ERBA Sysmex Xp- 100,3 part,B2607

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: 17-02-2021[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 | 4.7 | 4.2 | 8.9 | 9.41 | 0.0260 | -0.68 | 0.5 | 0.1 | 0.0070 | 3.17 |
| RBC x10 ⁶ /µl | 1 | 3.07 | 3.04 | 6.11 | 6.12 | 0.0050 | -0.04 | 0.03 | 0.03 | 0.0010 | 0.00 |
| Hb g/dl | 1 | 10.5 | 10.5 | 21 | 20.6 | 0.0180 | 0.86 | 0 | 0.1 | 0.0060 | -1.35 |
| HCT% | 1 | 29.4 | 29.1 | 58.5 | 62.3 | 0.1250 | -0.81 | 0.3 | 0.3 | 0.0110 | 0.00 |
| MCV-fl | 1 | 95.8 | 95.7 | 191.5 | 203 | 0.3650 | -0.83 | 0.1 | 0.3 | 0.0200 | -0.54 |
| MCH-Pg | 1 | 34.5 | 34.2 | 68.7 | 67.3 | 0.0580 | 0.82 | 0.3 | 0.3 | 0.0180 | 0.00 |
| MCHC-g/dl | 1 | 36.1 | 35.7 | 71.8 | 66.1 | 0.1400 | 1.16 | 0.4 | 0.3 | 0.0200 | 0.30 |
| Plt. x10 ³ /µl | 1 | 131 | 129 | 260 | 250.5 | 0.62 | 0.53 | 2 | 4 | 0.21 | -0.54 |
| Retic % | 2 | 4 | 3.5 | 7.5 | 13.15 | 0.25 | -0.67 | 0.5 | 0.4 | 0.02 | 0.34 |

P.S . Assesment

| YOUR REPORT | | | CONSENSUS REPORT | | |
|----------------|---|---|---|--|--|
| DLC% | 3 | Nrbcs=01 , Poly=02 L=98, E=0, Mono/Promono=0 , B1=0 P.M.=0, Mye=0, Meta=0, Other= | Lymp: 1-25, Blast: 60-95, Poly: 1-6, nRBC/Mono/Eo/Myelo/Meta: 0-1 | | |
| RBC Morphology | 3 | NCNC, few MCHC | Predominantly: Normocytic/ Normochromic, Moderate: Anisocytosis, Microcytic | | |
| Diagnosis | 3 | Chronic Lymphocytic Leukemia | Acute Lymphoblastic Leukemia (ALL) | | |

COMBINED DATA VALUES OF TOTAL PARTICIPANTS

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|---------------------------|-------|---|---------------------|--|------------|----------------------------|------------|---------------------------|------------|
| | | | | Among labs | Within lab | Among labs | Within lab | Among labs | Within lab |
| WBC x10 ³ /µl | 1 | 374 | 375 | 90.13 | 82.4 | 4.53 | 6.93 | 5.6 | 10.4 |
| RBC x10 ⁶ /µl | 1 | 374 | 376 | 87.5 | 85.9 | 7.45 | 3.46 | 5.05 | 10.11 |
| Hb g/dl | 1 | 374 | 376 | 89.89 | 91.76 | 6.38 | 2.93 | 3.72 | 0.53 |
| HCT% | 1 | 374 | 376 | 98.67 | 88.3 | 0.8 | 5.32 | 0.53 | 5.85 |
| MCV-fl | 1 | 374 | 376 | 98.94 | 92.02 | 0.8 | 2.66 | 0.27 | 5.32 |
| MCH-Pg | 1 | 374 | 375 | 92.53 | 88.27 | 4.27 | 8.27 | 3.2 | 3.47 |
| MCHC-g/dl | 1 | 374 | 376 | 97.61 | 88.3 | 1.86 | 5.32 | 0.53 | 6.12 |
| Plt. x10 ³ /µl | 1 | 374 | 376 | 89.63 | 92.02 | 6.91 | 2.93 | 3.46 | 5.05 |
| ReticCount% | 2 | 374 | 325 | 96.31 | 92.62 | 3.08 | 1.23 | 0.31 | 7.38 |
| PS Assessment | 3 | 374 | 357 | Acceptable:85%,Warning Signal:4.8%,Unacceptable :10.2% | | | | | |

***Comments:**

1). **Among Lab (EQA) : Wrongly Reported PS ,remaining results acceptable**

2). **Within Lab (IQA) : Difference in the CBC measurement values for WBC unacceptable, may be due to random/human error.**

Note-1: EQA (External Quality Assurance) : Your Performance among various of participating labs in PT, to determine the accuracy of your results.

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Report authorized by,



Dr. Seema Tyagi (Prof.)

PT Co-ordinator: ISHTM-AIIMS-EQAP

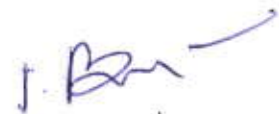
Department of Hematology, AIIMS, New Delhi

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

**Corrective action for Retic Count in July 2021
EQAP Report**

| | |
|----------------------------|--|
| Inadequacy | Outlier found in Retic |
| Root Cause analysis | Artifact/Human error. Retic slide staining is very dull and many needle shaped crystal like artifact was spread over the slide. |
| Preventive action | We will follow the procedure mentioned in the leaflet strictly, accompanied along with the eqap sample. |
| Corrective action | Training was taken and multiple slides were reviewed by Pathologist and proper report was given. We will ensure that this won't be repeated hereafter. |

date: 24/09/2024



MUKILANS LAB
No. 167/56, 1st Main Road,
Banu Nagar, Ambattur,
Chennai-600 053.

Corrective action of WBC at January 2021 in EQAP Report

| | |
|----------------------------|---|
| Inadequacy | WBC unacceptable for the month of January 2021 in eqap result |
| Root cause analysis | Human/Random Error |
| Corrective action | We are running internal quality check- Erba QC and all pathological values- high and low were checked manually by peripheral smear method by pathologist before giving report to patient. |
| Preventive action | Internal QC will be done frequently and abnormal/Critical values will be verified by pathologist to ensure correct report. |

Date: 24/09/2021

J. B. N.

MUKILANS LAB
No. 167/56, 1st Main Road,
Banu Nagar, Ambattur,
Chennai-600 053.

Corrective action for MCHC at July 2021 in EQAP Report

| | |
|----------------------------|---|
| Inadequacy | Outlier found in MCHC |
| Root cause analysis | Typographical Error, uploaded report for aiims eqap July 2021 is attached herewith. |
| Corrective action | Hereafter with utmost care the results will be uploaded with double check. |
| Preventive action | All the entries will be double checked before entering. |

J. B. S.

date : 24/09/2021

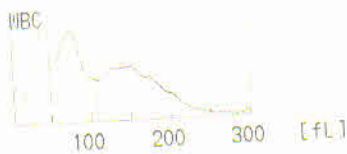
MUKILANS LAB
No. 167/56, 1st Main Road,
Banu Nagar, Ambattur,
Chennai-600 053.

MUKILAN S
LAB
AMBATTUR

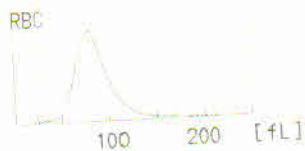
Operator

ID. AIMS.1
Date 06/28/2021
Time 10:12
Mode WBC [W]

WBC WL* 3.9 $\times 10^3/\mu\text{L}$
RBC 4.19 $\times 10^6/\mu\text{L}$
HGB 10.6 g/dL
HCT 34.5 %
MCV - 82.3 fL
MCH - 25.3 pg
MCHC - 30.7 g/dL
PLT AG* 114 $\times 10^3/\mu\text{L}$



LYM% WL* 42.4 %
MXD% WL* 0.0 %
NEUT% WL* 57.6 %
LYM# WL* 1.7 $\times 10^3/\mu\text{L}$
MXD# WL* 0.0 $\times 10^3/\mu\text{L}$
NEUT# WL* 2.2 $\times 10^3/\mu\text{L}$



RDW-SD 47.3 fL
RDW-CV 15.6 %



PDW MP+ 20.9 fL
MPV MP 10.4 fL
P-LCR MP 32.6 %
PCT MP* 0.12 %

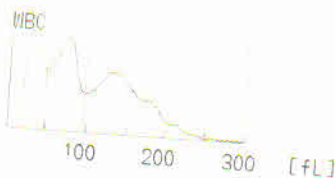
ResearchW 3.908 $\times 10^3/\mu\text{L}$
ResearchS 1.654 $\times 10^3/\mu\text{L}$
ResearchM 0.000 $\times 10^3/\mu\text{L}$
ResearchL 2.254 $\times 10^3/\mu\text{L}$

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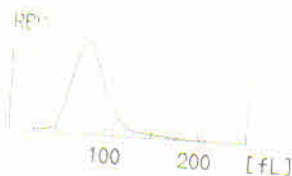
Operator

ID. AIMS.11
Date 06/22/2021
Time
Mode WBC [W]

WBC WL* 3.6 $\times 10^3/\mu\text{L}$
RBC 4.18 $\times 10^6/\mu\text{L}$
HGB 10.7 g/dL
HCT 34.4 %
MCV - 82.3 fL
MCH - 25.6 pg
MCHC 31.1 g/dL
PLT AG* 118 $\times 10^3/\mu\text{L}$



LYM% WL* 38.5 %
MXD% WL* 0.0 %
NEUT% WL* 61.5 %
LYM# WL* 1.4 $\times 10^3/\mu\text{L}$
MXD# WL* 0.0 $\times 10^3/\mu\text{L}$
NEUT# WL* 2.2 $\times 10^3/\mu\text{L}$



RDW-SD 48.7 fL
RDW-CV + 16.2 %



PDW * 19.4 fL
MPV * 10.3 fL
P-LCR * 32.3 %
PCT * 0.12 %

ResearchW 3.622 $\times 10^3/\mu\text{L}$
ResearchS 1.386 $\times 10^3/\mu\text{L}$
ResearchM 0.000 $\times 10^3/\mu\text{L}$
ResearchL 2.236 $\times 10^3/\mu\text{L}$