



**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. : 1702

Distribution No.: 161-D

Month/Year: September/2023

Instrument ID: MEK 6510 K (SNO. 04225)

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

Date of issue &amp; status of the report: 23-10-2023[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 <sup>3</sup> /µl  | 1     | 3.9                          | 3.9           | 7.8                         | 7.61  | 0.024                          | 0.29    | 0                               | 0.09  | 0.005                          | -1.21   |
| RBC x10 <sup>6</sup> /µl  | 1     | 4.23                         | 4.01          | 8.24                        | 8.51  | 0.008                          | -1.30   | 0.22                            | 0.03  | 0.002                          | 5.13    |
| Hb g/dl                   | 1     | 14.2                         | 13.4          | 27.6                        | 27.9  | 0.026                          | -0.45   | 0.8                             | 0.1   | 0.007                          | 9.44    |
| HCT%                      | 1     | 42.7                         | 40.3          | 83                          | 83.8  | 0.138                          | -0.21   | 2.4                             | 0.3   | 0.022                          | 5.67    |
| MCV-fl                    | 1     | 101                          | 101           | 202                         | 197.2   | 0.252                          | 0.69    | 0                               | 0.3   | 0.020                          | -1.01   |
| MCH-Pg                    | 1     | 33.6                         | 33.4          | 67                          | 65.35   | 0.068                          | 0.92    | 0.2                             | 0.2   | 0.014                          | 0.00    |
| MCHC-g/dl                 | 1     | 33.3                         | 33.3          | 66.6                        | 66.2  | 0.120                          | 0.11    | 0                               | 0.3   | 0.016                          | -1.01   |
| Plt. x10 <sup>3</sup> /µl | 1     | 132                          | 126           | 258                         | 311   | 0.930                          | -2.04   | 6                               | 4   | 0.252                          | 0.45    |
| Retic %                   | 2     | 4.2                          | 4             | 8.2                         | 5.08  | 0.122                          | 0.81    | 0.2                             | 0.2   | 0.012                          | 0.00    |

### P.S . Assesment

| YOUR REPORT    |   |  | CONSENSUS REPORT   |  |  |
|----------------|---|--|--|--|--|
| DLC%           | 3 | Nrbcs=0 , Poly=56 L=3, E=0, Mono/Promono=0 , B1=6 P.M.=12, Mye=12, Meta=10, Other= | Poly: 48 - 62, Myelo: 10 - 20, Meta: 7- 15, Promyelo: 2-7, Blast: 2-5, Lympho: 2- 5, Eosino: 1-2, nRBC/Mono, Baso: 0-5 |  |  |
| RBC Morphology | 3 | Normocytic normochromic with few microcytic hypochromic with mild anisocytosis     | Predominantly: Normocytic/Normochromic; Moderate: Anisocytosis, Hypochromic, Mild: Poikilocytosis                      |  |  |
| Diagnosis      | 3 | CML (Chronic Myeloid Leukemia)   | Chronic Myeloid Leukemia (Chronic Phase)   |  |  |

**COMBINED DATA VALUES OF TOTAL PARTICIPANTS**

| Test parameters           | S.No. | Total participants covered in the current dist. 161--D | 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 <sup>3</sup> /µl  | 1     | 343  | 340                 | 85.88   | 93.53      | 4.12                       | 3.53       | 10                        | 2.94       |
| RBC x10 <sup>6</sup> /µl  | 1     | 343  | 343                 | 89.21   | 84.84      | 6.41                       | 7.87       | 4.38                      | 7.29       |
| Hb g/dl                   | 1     | 343  | 343                 | 86.01   | 89.5       | 7                          | 4.08       | 6.99                      | 6.42       |
| HCT%                      | 1     | 343  | 341                 | 94.13   | 84.75      | 3.23                       | 8.21       | 2.64                      | 7.04       |
| MCV-fl                    | 1     | 343  | 340                 | 90.88   | 91.18      | 6.76                       | 2.65       | 2.36                      | 6.17       |
| MCH-Pg                    | 1     | 343  | 341                 | 87.39   | 94.43      | 7.04                       | 1.76       | 5.57                      | 3.81       |
| MCHC-g/dl                 | 1     | 343  | 341                 | 93.55   | 91.5       | 3.81                       | 2.05       | 2.64                      | 6.45       |
| Plt. x10 <sup>3</sup> /µl | 1     | 343  | 341                 | 91.79   | 92.08      | 5.28                       | 3.81       | 2.93                      | 4.11       |
| ReticCount%               | 2     | 343  | 300                 | 90.67   | 87         | 7                          | 2.33       | 2.33                      | 10.67      |
| PS Assessment             | 3     | 343  | 320                 | Satisfactory :94.18%, Borderline Sat. :3.20%, Unsatisfactory :2.62% |            |                            |            |                           |            |

**Comments:**

1). Among Lab (EQA) : Results acceptable.

2). Within Lab (IQA) : Difference in the CBC measurement values for RBC, HB & HCT 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](http://www.ishtmaiimseqap.com).

**Note 10:** Reports are kept confidential.

Report authorized by,



Dr. Manoranjan Mahapatra ( Prof. & Head)

PT Co-ordinator: ISHTM-AIIMS-EQAP

Department of Hematology, AIIMS, New Delhi

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







**PROFICIENCY TESTING REPORT**  
**ISHITM-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. : 1702

Distribution No.: 160-D

Month/Year: May/2023

Instrument ID: MEK 6510K

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

Date of issue & status of the report: 22-07-2023[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 <sup>3</sup> /μl  | 1     | 8.7                          | 8.3           | 17                          | 15.39   | 0.095                          | 0.57    | 0.4                             | 0.12  | 0.010                          | 1.72    |
| RBC x10 <sup>6</sup> /μl  | 1     | 4.61                         | 4.56          | 9.17                        | 9.51  | 0.009                          | -1.43   | 0.05                            | 0.04  | 0.002                          | 0.27    |
| Hb g/dl                   | 1     | 13.2                         | 13.2          | 26.4                        | 26.6  | 0.026                          | -0.30   | 0                               | 0.1   | 0.007                          | -1.35   |
| HCT%                      | 1     | 41.1                         | 40.7          | 81.8                        | 84.6  | 0.174                          | -0.60   | 0.4                             | 0.3   | 0.022                          | 0.27    |
| MCV-fl                    | 1     | 89.3                         | 89.2          | 178.5                       | 177.65  | 0.314                          | 0.09    | 0.1                             | 0.3   | 0.020                          | -0.54   |
| MCH-Pg                    | 1     | 28.9                         | 28.6          | 57.5                        | 55.8  | 0.056                          | 1.09    | 0.3                             | 0.2   | 0.013                          | 0.45    |
| MCHC-g/dl                 | 1     | 32.4                         | 32.1          | 64.5                        | 62.7  | 0.132                          | 0.51    | 0.3                             | 0.2   | 0.015                          | 0.45    |
| Plt. x10 <sup>3</sup> /μl | 1     | 220                          | 213           | 433                         | 490   | 1.995                          | -1.02   | 7                               | 7   | 0.418                          | 0.00    |
| Retic %                   | 2     | 8.5                          | 8.2           | 16.7                        | 9.5   | 0.197                          | 1.15    | 0.3                             | 0.3   | 0.021                          | 0.00    |

**P.S . Assesment**

| YOUR REPORT    |   |  | CONSENSUS REPORT   |  |  |
|----------------|---|--|--|--|--|
| DLC%           | 3 | Nrbcs=0 , Poly=9 L=70, E=0, Mono/Promono=1 , B1=15 P.M.=05, Mye=0, Meta=0, Other=0   | Lympho: 23-50, Blast: 0-41, Promyelo: 0-34, Poly: 4-16, Mono: 1-6, nRBC/Eos/Baso/Myelo/Meta: 0-5 |  |  |
| RBC Morphology | 3 | Mild to Mod. Microcytic Hypochromic RBC with few Macrocytic RBC's with mild to mod. anisocytosis and mild poikilocytosis with few target cells seen. | Predominantly: Normocytic/ Normochromic, Anisocytosis, schistocyte, Occasional cells.            |  |  |
| Diagnosis      | 3 | Acute Leukemia   | Acute Promyelocytic Leukemia (APML)  |  |  |

**COMBINED DATA VALUES OF TOTAL PARTICIPANTS**

| Test parameters           | S.No. | Total participants covered in the current dist. 160--D | 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 <sup>3</sup> /μl  | 1     | 350  | 348                 | 85.92  | 88.22      | 4.02                       | 4.02       | 10.06                     | 7.76       |
| RBC x10 <sup>6</sup> /μl  | 1     | 350  | 350                 | 90.86  | 88.86      | 5.43                       | 3.43       | 3.71                      | 7.71       |
| Hb g/dl                   | 1     | 350  | 350                 | 89.14  | 90.86      | 5.14                       | 3.43       | 5.72                      | 5.71       |
| HCT%                      | 1     | 350  | 348                 | 89.66  | 88.79      | 4.6                        | 5.46       | 5.74                      | 5.75       |
| MCV-fl                    | 1     | 350  | 348                 | 91.38  | 88.22      | 3.45                       | 7.76       | 5.17                      | 4.02       |
| MCH-Pg                    | 1     | 350  | 348                 | 91.95  | 92.53      | 4.89                       | 2.87       | 3.16                      | 4.6        |
| MCHC-g/dl                 | 1     | 350  | 348                 | 89.08  | 91.67      | 7.18                       | 2.87       | 3.74                      | 5.46       |
| Plt. x10 <sup>3</sup> /μl | 1     | 350  | 348                 | 88.79  | 90.8       | 6.61                       | 5.75       | 4.6                       | 3.45       |
| ReticCount%               | 2     | 350  | 320                 | 95   | 81.25      | 2.81                       | 14.38      | 2.19                      | 4.37       |
| PS Assessment             | 3     | 350  | 316                 | Satisfactory :70.42%, Borderline Sat. :26.14%, Unsatisfactory :3.44% |            |                            |            |                           |            |

**Comments:**

1). Among Lab (EQA) : 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)

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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).

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

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**Note 10:** Reports are kept confidential.

Report authorized by,

Dr. Manoranjan Mahapatra ( Prof. & Head)

PT Co-ordinator: ISHTM-AIIMS-EQAP

Department of Hematology, AIIMS, New Delhi

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







**PROFICIENCY TESTING REPORT**  
**ISITM-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. : 1702

Instrument ID: Nihon Kohden MEK 6510 K  
(04225)

Distribution No.: 158-D Month/Year: November/2022

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: 11-01-2023[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 <sup>3</sup> /µl  | 1     | 6.7                          | 6.5           | 13.2                        | 13.68   | 0.028                          | -0.70   | 0.2                             | 0.1   | 0.007                          | 0.84    |
| RBC x10 <sup>6</sup> /µl  | 1     | 5.24                         | 5.12          | 10.36                       | 10.47   | 0.009                          | -0.44   | 0.12                            | 0.03  | 0.002                          | 2.02    |
| Hb g/dl                   | 1     | 14.8                         | 14.2          | 29                          | 29.1  | 0.021                          | -0.17   | 0.6                             | 0.1   | 0.007                          | 6.74    |
| HCT%                      | 1     | 45.5                         | 44.5          | 90                          | 90.45   | 0.159                          | -0.10   | 1                               | 0.3   | 0.022                          | 1.57    |
| MCV-fl                    | 1     | 86.9                         | 86.8          | 173.7                       | 173.1   | 0.252                          | 0.08    | 0.1                             | 0.3   | 0.021                          | -0.67   |
| MCH-Pg                    | 1     | 28.2                         | 27.7          | 55.9                        | 55.4  | 0.044                          | 0.44    | 0.5                             | 0.2   | 0.014                          | 1.35    |
| MCHC-g/dl                 | 1     | 32.5                         | 31.9          | 64.4                        | 64.1  | 0.107                          | 0.09    | 0.6                             | 0.3   | 0.018                          | 1.01    |
| Plt. x10 <sup>3</sup> /µl | 1     | 136                          | 136           | 272                         | 281   | 1.187                          | -0.28   | 0                               | 5   | 0.295                          | -0.96   |
| Retic %                   | 2     | 16.7                         | 16.5          | 33.2                        | 36.5  | 0.717                          | -0.15   | 0.2                             | 1   | 0.061                          | -0.67   |

**P.S . Assesment**

| YOUR REPORT    |   |  | CONSENSUS REPORT  |
|----------------|---|--|---|
| DLC%           | 3 | Nrbc=0 , Poly=32 L=65, E=02, Mono/Promono=1 , B1=0 P.M.=0, Mye=0, Meta=0, Other= | Lympho: 64-73, Poly: 23-31, nRBC/mono/Eosino/Myelo/Meta/blast: 0-5  |
| RBC Morphology | 3 | Normocytic Normochromic with mild anisocytosis and polkilocytosis.               | Predominantly: Normocytic/Normochromic; Moderate: Anisocytosis, Microcytosis, Hypochromia; Mild: Macrocytosis, Poikilocytosis ,Few smudge cells seen. |
| Diagnosis      | 3 | Lymphocytic Leucocytosis.  | Chronic lymphoproliferative disorder  |

## COMBINED DATA VALUES OF TOTAL PARTICIPANTS

| Test parameters           | S.No. | Total participants covered in the current dist. 158--D | 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 <sup>3</sup> /µl  | 1     | 327  | 325                 | 84.62  | 91.08      | 4.62                       | 4.62       | 10.76                     | 4.3        |
| RBC x10 <sup>6</sup> /µl  | 1     | 327  | 327                 | 88.99  | 90.52      | 5.81                       | 3.98       | 5.2                       | 5.5        |
| Hb g/dl                   | 1     | 327  | 327                 | 87.16  | 89.91      | 5.81                       | 5.81       | 7.03                      | 4.28       |
| HCT%                      | 1     | 327  | 325                 | 93.85  | 88.31      | 2.46                       | 6.15       | 3.69                      | 5.54       |
| MCV-fl                    | 1     | 327  | 325                 | 94.15  | 89.54      | 3.69                       | 6.15       | 2.16                      | 4.31       |
| MCH-Pg                    | 1     | 327  | 325                 | 91.38  | 89.85      | 3.69                       | 5.54       | 4.93                      | 4.61       |
| MCHC-g/dl                 | 1     | 327  | 325                 | 96.92  | 91.08      | 1.23                       | 4          | 1.85                      | 4.92       |
| Plt. x10 <sup>3</sup> /µl | 1     | 327  | 325                 | 90.15  | 90.77      | 7.38                       | 6.15       | 2.47                      | 3.08       |
| ReticCount%               | 2     | 327  | 298                 | 97.32  | 88.26      | 2.01                       | 4.36       | 0.67                      | 7.38       |
| PS Assessment             | 3     | 327  | 291                 | Satisfactory :87.42%, Borderline Sat. :11.04%, Unsatisfactory :1.53% |            |                            |            |                           |            |

## Comments:

1). Among Lab (EQA) : Results acceptable.

2). Within Lab (IQA) : Difference in the CBC measurement values for HB 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.

**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).

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**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](http://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-----







**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. : 1702

Distribution No.: 157-D Month/Year: August/2022

Instrument ID: MEK 6510K (04225)

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

Date of issue &amp; status of the report: 15-10-2022[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 <sup>3</sup> /µl  | 1     | 3.1                          | 3             | 6.1                         | 6.13  | 0.017                          | -0.07   | 0.1                             | 0.07  | 0.005                          | 0.45    |
| RBC x10 <sup>6</sup> /µl  | 1     | 4.53                         | 4.4           | 8.93                        | 9.36  | 0.008                          | -2.00   | 0.13                            | 0.04  | 0.002                          | 2.43    |
| Hb g/dl                   | 1     | 10.9                         | 10.8          | 21.7                        | 22.6  | 0.020                          | -1.73   | 0.1                             | 0.1   | 0.007                          | 0.00    |
| HCT%                      | 1     | 37.8                         | 36.6          | 74.4                        | 78.1  | 0.112                          | -1.22   | 1.2                             | 0.3   | 0.021                          | 2.82    |
| MCV-fl                    | 1     | 83.4                         | 83.2          | 166.6                       | 166.6   | 0.210                          | 0.00    | 0.2                             | 0.3   | 0.020                          | -0.27   |
| MCH-Pg                    | 1     | 24.5                         | 24.1          | 48.6                        | 48.2  | 0.045                          | 0.34    | 0.4                             | 0.2   | 0.011                          | 1.35    |
| MCHC-g/dl                 | 1     | 29.5                         | 28.8          | 58.3                        | 57.75   | 0.094                          | 0.21    | 0.7                             | 0.3   | 0.016                          | 1.35    |
| Plt. x10 <sup>3</sup> /µl | 1     | 97                           | 96            | 193                         | 231   | 0.954                          | -1.48   | 1                               | 5   | 0.283                          | -0.77   |
| Retic %                   | 2     | 3.5                          | 3.2           | 6.7                         | 4   | 0.138                          | 0.47    | 0.3                             | 0.2   | 0.011                          | 0.34    |

### P.S . Assesment

| YOUR REPORT    |   |   | CONSENSUS REPORT  |
|----------------|---|---|---|
| DLC%           | 3 | Nrbcs=00 , Poly=26 L=1, E=0, Mono/Promono=1 , B1=17 P.M.=35, Mye=7, Meta=13, Other=                       | Blast: 43-80, Poly: 4-12, Lympho: 4-10, Promyelo: 0-12.25, Myelo: 1-6.5, nRBC/Mono/Meta/Eos: 0-5              |
| RBC Morphology | 3 | Normocytic Normochromic with Mild Microcytic , Hypochromic and mild anisocytosis and mild poikilocytosis. | Predominantly: Normocytic/Normochromic; Moderate: Microcytosis, Hypochromia; Mild: Anisocytosis, Macrocytosis |
| Diagnosis      | 3 | CML (Chronic Myleoid Leukemia)  | Acute Myeloid Leukemia (AML)  |

**COMBINED DATA VALUES OF TOTAL PARTICIPANTS**

| Test parameters           | S.No. | Total participants covered in the current dist. 157--D | 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 <sup>3</sup> /μl  | 1     | 353  | 348                 | 82.76   | 92.24      | 3.74                       | 3.45       | 13.5                      | 4.31       |
| RBC x10 <sup>6</sup> /μl  | 1     | 353  | 353                 | 87.82   | 88.39      | 6.23                       | 5.1        | 5.95                      | 6.51       |
| Hb g/dl                   | 1     | 353  | 353                 | 85.27   | 90.65      | 5.95                       | 3.97       | 8.78                      | 5.38       |
| HCT%                      | 1     | 353  | 348                 | 89.08   | 91.09      | 6.32                       | 4.6        | 4.6                       | 4.31       |
| MCV-f                     | 1     | 353  | 348                 | 91.09   | 93.39      | 5.75                       | 2.59       | 3.16                      | 4.02       |
| MCH-Pg                    | 1     | 353  | 348                 | 85.63   | 93.97      | 8.33                       | 2.3        | 6.04                      | 3.73       |
| MCHC-g/dl                 | 1     | 353  | 348                 | 89.66   | 91.38      | 5.46                       | 2.87       | 4.88                      | 5.75       |
| Plt. x10 <sup>3</sup> /μl | 1     | 353  | 348                 | 88.51   | 88.79      | 6.03                       | 6.9        | 5.46                      | 4.31       |
| ReticCount%               | 2     | 353  | 231                 | 89.18   | 95.24      | 9.09                       | 9.96       | 1.73                      | -5.20      |
| PS Assessment             | 3     | 353  | 337                 | Satisfactory :94.64%, Borderline Sat. :3.95%, Unsatisfactory :1.41% |            |                            |            |                           |            |

**Comments:**

- 1). Among Lab (EQA) : PS Diagnosis wrongly reported, remaining results acceptable
- 2). Within Lab (IQA) : Difference in the CBC measurement values for HCT 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.

**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](http://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-----