PROFICIENCY TESTING REPORT

ISHTM-AIIMS EXTERNAL QUALITY ASSURANCE PROGRAMME

NABL accredited program as per ISO/IEC 17043:2023 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. : 1828 **Distribution No.:** 166-F **Month/Year:** January/2025

Instrument ID: Horiba **Model Name.:** HORIBA YUMIZEN H500 **Serial No.:** 008YOXH03694

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

Date of issue & status of the report: 03-03-2025 [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	6.6	6.52	13.12	14.22	0.058	-0.79	0.08	0.1	0.008	-0.13
RBC x10^6/µl	1	4.81	4.76	9.57	7.49	0.011	6.10	0.05	0.03	0.002	0.54
Hb g/dl	1	13.9	13.9	27.8	24.7	0.041	2.36	0	0.1	0.007	-0.67
HCT%	1	42.4	42.4	84.8	76.2	0.165	1.71	0	0.4	0.022	-1.35
MCV-fl	1	89.1	88.2	177.3	205.65	0.366	-2.31	0.9	0.3	0.019	1.62
MCH-Pg	1	29.1	28.9	58	65.7	0.084	-3.37	0.2	0.3	0.016	-0.34
MCHC-g/dl	1	32.8	32.7	65.5	63.8	0.136	0.43	0.1	0.3	0.017	-0.67
Plt. x10^3/µl	1	178	169	347	319	1.300	0.71	9	4	0.263	1.12
Retic %	2	10	8	18	14.6	0.261	0.41	2	0.5	0.032	2.53

P.S . Assesment

		YOUR REPORT	CONSENSUS REPORT
DLC%	3	Nrbcs=0 , Poly=5 L=10, E=1, Mono/Promono=4 , B1=70 P.M.=, Mye=6, Meta=4, Other=	Blast: 47-89, Lympho: 5-19, Poly: 8-15, Mono: 1-4, nRBC/Myelo/Meta/Eos/Promyelo/Baso : 0-5
RBC Morphology	3	Normocytic normochromic , anisocytosis, 02NRBCs/100WBCS	RBC morphology shows anisocytosis with normocytic normochromic cells. Few elliptocytes are noted, with no other significant abnormalities.
Diagnosis	3	Acute Leukemia possibility of chronic myeloid leukemia - blood picture.	Acute Leukemia (AL)

COMBINED DATA VALUES OF TOTAL PARTICIPANTS

Test parameters	S.No.	Total participants covered in the current dist. 166--F	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	365	362	69.34	87.29	9.39	3.59	21.270	9.12
RBC $x10^6/\mu l$	1	365	365	91.78	94.79	4.66	1.1	3.56	4.11
Hb g/dl	1	365	365	89.32	87.4	8.49	5.21	2.19	7.39
HCT%	1	365	362	95.3	93.92	3.59	2.76	1.11	3.32
MCV-fl	1	365	362	97.79	85.91	1.38	8.01	0.83	6.08
MCH-Pg	1	365	362	87.57	88.12	6.35	5.52	6.08	6.36
MCHC-g/dl	1	365	362	90.06	90.88	7.73	3.87	2.21	5.25
Plt. $x10^3/\mu l$	1	365	362	94.2	94.48	4.42	3.31	1.38	2.21
ReticCount%	2	365	299	94.65	84.95	2.34	10.03	3.01	5.02
PS Assessment	3	365	297	Satisfactory :83.84%, Borderline Sat. :4.38%, Unsatisfactory :11.78%					

Comments:

1). Among Lab (EQA) : CBC result for *RBC & MCH* 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 13528:2022 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 13528:2022 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 13528:2022 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. Manoranjan Mahapatra (Prof. & Head)
PT Co-ordinator: ISHTM-AIIMS-EQAP
Department of Hematology, AIIMS, New Delhi

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

ISHTM-AIIMS EXTERNAL QUALITY ASSURANCE PROGRAMME
An NABL accredited programme as per ISO/IEC 17043:2023 standard
Department of Hematology, AIIMS, New Delhi-110029
Website: www.ishtmaiimseqap.com
E-mail: Info@ishtmaiimseqap.com, Contact No.9013085730

PC-1088

EQAP Code No. **Distribution No.**

1/166-F

Direction Sheet for sample processing and Report Submission

[Please read it carefully]

1. ISHTM-AIIMS-EQAP sends specimens quarterly to each participating lab for external quality control or proficiency testing as per the following schedule:

EQAP Code No. and Distribution	Month of specimen dispatch
1 - 899 (odd Nos. only) [A] 3901 – 4350 (both odd and even Nos.) [K] 4351 – 4800 (both odd and even Nos.) [L] 4801 - 5250 (both odd and even Nos.) [M] 5251 - 5700 (both odd and even Nos.) [N]	Jan, Apr, Jul, Oct
6151 - 6600 (both odd and even Nos.) [P] 2 - 900 (even Nos. only)[B] 901 - 1799 (odd Nos. only) [C] 902 - 1800 (even Nos. only)[D] 1801 - 2699 (odd Nos. only) [E]	Feb, May, Aug, Nov
1802 – 2700 (even Nos. only) [F] 2701 – 3050 [G] 3051 – 3250 [H] 3251 – 3450 [I] 3451 – 3900 [J] 5701 – 6150 [O] 6601 – 7050 [Q]	Mar, Jun, Sep, Dec

Note: You will also receive an email when we dispatch the specimens. If the EQAP samples do notreach you within 7 days of dispatch, please e-mail us immediately so that repeat samples can be sent. ISHTM-AIIMS-EQAP will not be responsible for sample non-receipt, if not informed timely.
The following 3 samples will be sent:

Sample No.1: **COMPLETE BLOOD COUNTS**

It is stabilized human whole blood sample. Report all the parameters listed in the results submission page on website. Run the sample twice on your registered analyzer and report all the parameters in duplicate by entering higher value in first column and lower value in second column. The parameters must be reported on the scale of WBC:** $x10^3/\mu l$, RBC:** $x10^6/\mu l$, Hb:**g/dl, HCT:**%,MCV:** fl, MCH:** Pg, MCHC: ** g/dl, Platelet: ** $x\ 10^3/\mu l$. Please only fill the measurement value (**) in report submission column and **do not type any text, scale or superscript strictly**. For E.g. a WBC count of 7800 / µl, you have only to type 7.8 in the WBC column, **nothing else**. Please note, if result is not reported in duplicate or on correct scale, it will not be accepted and no assessment will be done. A copy of your analyzer's report for both measurements should also be attached as a single PDF copy on the link provided. Report must be of the registered analyzer only; any other will be rejected.

Sample No.2: **RETICULOCYTE COUNT**

Please assess the reticulocyte count (%) on the slide provided. Counting the red blood cells correctly can be helped by a card board diaphragm or a piece of paper inserted into the eyepiece, with a small hole in the centre to reduce the optical field, so that not more than 30-35 R.B.C should be viewed in a field.

Sample No.3: **PERIPHERAL BLOOD SMEAR**

The blood films are already stained with Jenner-Giemsa. The clinical summary is placed with the peripheral smear in the specimen box. Please report DLC and briefly comment on R.B.C. morphology (minimum 2 and maximum 4 noticeable/relevant features observed). Reporting of diagnosis is optional.

1. You result must be uploaded on our website by login with your unique user name and password **within 20 days of dispatch of the specimen** and once submitted, **in case of any mistake, you can also edit your results.** In case you missed your login details, you may recover it simply through 'forgot password' link provided on the website. Hard copy of the result by e-mail or post will NOT be accepted for evaluation strictly. Once the deadline of result submission is over, the link for same will be disabled and you will not be able to upload the result. **Once the result submitted, immediately check it there in the link "My Submitted Reports" on your profile**, it must be visible there if result was successfully submitted. You should **save this screenshot as a proof** of your

successful result submission and share with us in case of any discrepancy. In case it is not visible there, resubmits your result, and if problem continues immediately e-mail to us. No complaint regarding the same will be entertained after result submission deadline.

2. The instrument ID must be same for each consecutive cycle, and if changed should be informed to us first.
3. The evaluation sheet (PT Report) will be made available on website. You can download it from the website www.ishtmaiimseqap.comby login with your confidential username and password. No hard copy of evaluation sheet will be sent to any participant. Any complaint regarding error in assessment sheet must be reported **within maximum 10 days only**.
4. Do not share or discuss your results with other participants, to prevent collusion of results. The samples sent to different labs may be different even in same distribution group, with minor variation in their count. This remains confidential at our end. Do not compare your results strictly with other labs.
5. We try our best to supply the specimens free from microbial contamination, HIV, Hbs Ag, & other blood borne pathogens. However, they should be treated with universal precautions as if from patients and care taken in their handling and disposal.
6. The specimens have capability to withstand ambient temperature during the transit period without any deterioration. However, the cool pack is placed in the specimen box as an additional precaution only. You needn't bother if the cool pack loses its coolness by the time the specimen reaches you. Homogeneity and Stability testing of specimen at room temperature is performed regularly in our lab and evaluations of participant's results are carried out only if it passed.
7. The blood specimens should be stored at 4-8°C immediately after receiving and must be run on analyzer within 24 hour period. Please maintain the record of ambient temperature, sample receiving date, sample processing date at your end. Sample has to be run in duplicate and both results have to be submitted on portal.
8. In case of excessive delay in receipt of specimen, sometimes, fungus might grow in the specimens which is mistaken for a clot by the related participant. In such a scenario participants can insist for a fresh specimen from the PT provider.
9. You should always keep your profile page updated on website **(especially e-mail, analyzer detail, Pin code and Mobile no.).** Also, keep checking the website regularly for any relevant updates that will be flashed / will be sent on the registered e-mail ID. Exact date to download the ongoing evaluation sheet will also be flashed on the website. If you miss any of our information/e-mail due to wrong/out dated profile or address, it will be your sole responsibility.
10. ISHTM-AIIMS-EQAP does not subcontract/outsource any activity of its programme
11. Soft copy of participation certificate will be issued on demand.
12. Renewal fees (Rs. 2000/- for Govt lab and Rs. 2500/- for Pvt. Lab) must be submitted before the onset of each New Year failing which registration will be cancelled. You can easily submit the fees online through secure "Make Payment" link after login to your profile on the website. If you have any query regarding this, please e-mail us. **DD/Cheque should NOT be sent without taking prior permission from our below mentioned official e-mail ID.**
13. Z scores among labs (EQA) are calculated using the formula:

$$Z_{EQA}/Z_{IQA} = \frac{\text{Your Result Sum/Difference of two values} - \text{Consensus Result Sum/Difference of two values}}{\text{Normalised IQR}}$$

IQR = Quartile 3 - Quartile 1 of participant data, Normalised IQR = 0.7413 x IQR

14. In both formulas:

- Your Result refers to the sum or difference of two values obtained from your lab's testing.
- Consensus Result refers to the sum or difference of two values agreed upon by all labs participating in the testing.
- Normalised IQR is calculated as 0.7413 times the Interquartile Range (IQR), where IQR is the difference between the third quartile (Quartile 3) and the first quartile (Quartile 1) of participant data.

15. The consensus median is the assigned value for the testing.

16. The ISHTM-AIIMS-EQAP is accredited by NABL as per the requirements of ISO/IEC 17043:2010

standards and all the statistical analysis of assessment are done as per ISO/IEC 13528:2022 standard.

17. **CONTACT DETAILS**:

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We prefer you communicate with us by email only, however, in case of any acute urgency; you may call on above mobile no. between 3:00 & 4:00 PM from Monday to Friday and 11:00AM to 12:00 Noon on Saturdays. It is mandatory to quote your EQAP code no. while sending e-mail, without which it will not be entertained.

Website:www.ishtmaiimseqap.com