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. : 5929 **Distribution No.:** 160-O **Month/Year:** July/2023

Instrument ID: ERMA PCE-210

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: 19-09-2023[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	4.2	4.2	8.4	6.85	0.043	**1.77**	0	0.08	0.006	**-1.08**
RBC x10^6/µl	1	4.98	4.96	9.94	9.51	0.016	**1.38**	0.02	0.05	0.004	**-0.58**
Hb g/dl	1	12.8	12.7	25.5	25.3	0.036	**0.25**	0.1	0.1	0.011	**0.00**
HCT%	1	40.7	40.6	81.3	80.7	0.256	**0.11**	0.1	0.4	0.045	**-0.51**
MCV-fl	1	82	81.3	163.3	169.2	0.451	**-0.60**	0.7	0.3	0.030	**0.90**
MCH-Pg	1	25.6	25.6	51.2	53	0.104	**-0.92**	0	0.2	0.018	**-0.90**
MCHC-g/dl	1	31.5	31.2	62.7	63.1	0.231	**-0.09**	0.3	0.3	0.027	**0.00**
Plt. x10^3/µl	1	247	232	479	318	2.317	**3.12**	15	7	0.578	**1.20**
Retic %	2	0.2	0.1	0.3	1.59	0.054	**-0.93**	0.1	0.2	0.014	**-0.45**

P.S . Assesment

YOUR REPORT			CONSENSUS REPORT
DLC%	3	Nrbcs=0 , Poly=25 L=05, E=01, Mono/Promono=00 , B1=01 P.M.=00, Mye=29, Meta=27, Other=NIL	Poly: 37 – 52, Myelo: 15 - 27, Meta: 9– 17, Promyelo: 2-8, Lympho: 2– 5, Blast: 1-4, Eosino: 1-3, Mono: 1-2, nRBC/ Baso: 0-5
RBC Morphology	3	NORMOCHROMIC ,NORMOCYTIC, ANISOCYTOSIS(+)	Predominantly: Normocytic/Normochromic; Moderate: Anisocytosis, hypochromic, Mild: Poikilocytosis
Diagnosis	3	CHRONIC MYELO PROLIFERATIVE DISEASE, CHRONIC MYELOID LEUKEMIA CHRONIC PHAGE	Chronic Myeloid Leukemia (Chronic Phase)

COMBINED DATA VALUES OF TOTAL PARTICIPANTS

Test parameters	S.No.	Total participants covered in the current dist. 160--O	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	200	199	86.43	92.96	3.52	1.01	10.05	6.03
RBC $x10^6$/µl	1	200	200	86.5	86.5	6	5.5	7.5	8
Hb g/dl	1	200	200	86.5	87.5	7	4.5	6.5	8
HCT%	1	200	199	92.96	89.95	2.51	3.02	4.53	7.03
MCV-fl	1	200	199	91.96	87.94	7.04	4.02	1	8.04
MCH-Pg	1	200	199	83.42	92.46	9.05	1.01	7.53	6.53
MCHC-g/dl	1	200	199	90.95	85.43	5.03	5.03	4.02	9.54
Plt. $x10^3$/µl	1	200	199	88.94	92.96	6.53	3.52	4.53	3.52
ReticCount%	2	200	152	84.87	92.76	7.24	9.87	7.89	-2.63
PS Assessment	3	200	163	Satisfactory :98.5%, Borderline Sat. :0%, Unsatisfactory :1.50%					

*Comments:

1). Among Lab (EQA) : CBC result for *PLT* unacceptable, may be due to random/human error

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 ($\bar{x}$-$\bar{y}$) 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----------

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. : 5929 **Distribution No.:** 161-O **Month/Year:** October/2023

Instrument ID: AGD BIOMEDICALS

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: 15-01-2024[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	3.9	7.9	7.3	0.032	**0.67**	0.1	0.1	0.007	**0.00**
RBC x10^6/µl	1	3.8	3.76	7.56	7.02	0.009	**2.35**	0.04	0.04	0.002	**0.00**
Hb g/dl	1	10.3	10.2	20.5	21.8	0.027	**-1.95**	0.1	0.1	0.008	**0.00**
HCT%	1	35.3	35	70.3	68.2	0.165	**0.48**	0.3	0.4	0.024	**-0.22**
MCV-fl	1	93	92.8	185.8	194.8	0.360	**-0.88**	0.2	0.3	0.020	**-0.27**
MCH-Pg	1	27.1	27.1	54.2	61.8	0.091	**-3.25**	0	0.3	0.018	**-1.35**
MCHC-g/dl	1	29.1	29.1	58.2	63.9	0.164	**-1.29**	0	0.3	0.022	**-1.01**
Plt. x10^3/µl	1	197	189	386	349	1.479	**0.85**	8	5	0.314	**0.58**
Retic %	2	13	12.5	25.5	13	0.313	**1.09**	0.5	0.5	0.036	**0.00**

P.S . Assesment

		YOUR REPORT	CONSENSUS REPORT
DLC%	3	Nrbcs=00 , Poly=07 L=89, E=00, Mono/Promono=04 , B1=00 P.M.=00, Mye=00, Meta=00, Other=NIL	Lymp: 77-88, Poly: 7-12, Eosino: 1-2, mono: 1-3, nRBC/blast/Myelo/Meta: 0-5
RBC Morphology	3	Normochromia Anisocytosis(+)	Predominantly: Normocytic/Normochromic; Moderate: Anisocytosis, Mild: Poikilocytosis.
Diagnosis	3	Chronic Lymphoproliferative Disease - Chronic Lymphocytic Leukemia	Chronic Lymphoproliferative Disorder

COMBINED DATA VALUES OF TOTAL PARTICIPANTS

Test parameters	S.No.	Total participants covered in the current dist. 161--O	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	332	332	87.65	92.77	4.22	2.11	8.13	5.12
RBC $x10^6$/µl	1	332	332	87.65	93.67	5.42	1.51	6.93	4.82
Hb g/dl	1	332	332	87.95	87.35	4.22	4.82	7.83	7.83
HCT%	1	332	332	88.55	88.25	6.63	4.82	4.82	6.93
MCV-fl	1	332	332	91.87	85.24	6.33	4.52	1.8	10.24
MCH-Pg	1	332	332	87.95	89.16	6.93	4.82	5.12	6.02
MCHC-g/dl	1	332	332	90.66	89.46	5.42	5.72	3.92	4.82
Plt. $x10^3$/µl	1	332	332	93.07	90.06	3.31	3.92	3.62	6.02
ReticCount%	2	332	255	96.47	83.92	1.96	9.41	1.57	6.67
PS Assessment	3	332	260	Satisfactory :91.57%, Borderline Sat. :3.31%, Unsatisfactory :5.12%					

*Comments:

1). Among Lab (EQA) : CBC result for *MCH* unacceptable, may be due to random/human error

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 ($\bar{x}$-$\bar{y}$) 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----------