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

NABL Certificate No. PC - 1002

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

EQAP CODE No. : 1433 **Distribution No.:** 154-C **Month/Year:** November/2021

Instrument ID: 665000215

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: 21-02-2022[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 x10^3/µl	1	5.25	4.91	10.16	9.53	0.0240	**1.08**	0.34	0.1	0.0070	**2.02**
RBC x10^6/µl	1	4.81	4.4	9.21	8.93	0.0090	**1.22**	0.41	0.04	0.0020	**9.98**
Hb g/dl	1	13.6	12.4	26	25.75	0.0280	**0.42**	1.2	0.1	0.0080	**14.84**
HCT%	1	42.32	38.46	80.78	77.6	0.1370	**0.93**	3.86	0.4	0.0240	**11.67**
MCV-fl	1	88	87	175	173.95	0.2080	**0.19**	1	0.3	0.0200	**1.89**
MCH-Pg	1	28.4	28.2	56.6	57.7	0.0540	**-0.75**	0.2	0.2	0.0130	**0.00**
MCHC-g/dl	1	32.2	32	64.2	66.45	0.1020	**-0.83**	0.2	0.3	0.0190	**-0.34**
Plt. x10^3/µl	1	146	134	280	296	0.97	**-0.68**	12	5	0.29	**1.40**
Retic %	2	16	13	29	17	0.30	**1.56**	3	0.5	0.03	**4.22**

P.S . Assesment

		YOUR REPORT	CONSENSUS REPORT
DLC%	3	Nrbcs= , Poly=8.00 L=1.00, E=, Mono/Promono=0.00 , B1=86.00 P.M.=, Mye=4.00, Meta=1.00, Other=	Blast: 85-94, Poly: 4-12, Lympho: 1-8, nRBC/mono/Eosino/Myelo/Meta: 0-1
RBC Morphology	3	microcytes++,macro/macro-ovalogic	Predominantly: Normocytic/ Normochromic, Moderate: Anisocytosis, Microcytic
Diagnosis	3	Acute leukemia	Acute Leukemia

COMBINED DATA VALUES OF TOTAL PARTICIPANTS

Test parameters	S.No.	Total participants covered in the current dist. 154--C	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	313	309	78.96	92.56	7.44	3.88	13.6	3.56
RBC $x10^6$/µl	1	313	313	86.58	92.01	4.79	3.19	8.63	4.8
Hb g/dl	1	313	313	85.62	88.5	5.75	5.11	8.63	6.39
HCT%	1	313	309	89.64	89	5.5	4.53	4.86	6.47
MCV-fl	1	313	310	89.03	92.9	6.45	3.55	4.52	3.55
MCH-Pg	1	313	310	88.39	90.65	5.81	5.16	5.8	4.19
MCHC-g/dl	1	313	310	89.35	90.65	5.81	6.13	4.84	3.22
Plt. $x10^3$/µl	1	313	310	89.03	90	5.81	7.1	5.16	2.9
ReticCount%	2	313	313	95.85	86.9	2.56	9.58	1.59	3.52
PS Assessment	3	313	301	Satisfactory :98.1%, Borderline Sat. :0.31%, Unsatisfactory :1.59%					

*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)
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

NABL Certificate No. PC - 1002

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

EQAP CODE No. : 1433 **Distribution No.:** 155-C **Month/Year:** February/2022

Instrument ID: CELL TECH 380 SN 665000215

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: 21-04-2022[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 x10^3/µl	1	8.47	7.9	16.37	17.18	0.0790	**-0.38**	0.57	0.13	0.0100	**2.97**
RBC x10^6/µl	1	5.78	4.71	10.49	8.12	0.0390	**1.95**	1.07	0.06	0.0040	**17.03**
Hb g/dl	1	13.9	13.8	27.7	27.6	0.0210	**0.18**	0.1	0.1	0.0080	**0.00**
HCT%	1	54.07	44.32	98.39	80.3	0.2460	**2.54**	9.75	0.5	0.0260	**20.80**
MCV-fl	1	94	94	188	199.5	0.6050	**-0.64**	0	0.5	0.0360	**-0.84**
MCH-Pg	1	29.5	23.9	53.4	68	0.3170	**-1.44**	5.6	0.5	0.0280	**11.47**
MCHC-g/dl	1	31.4	26.5	57.9	68.7	0.2090	**-1.86**	4.9	0.3	0.0240	**10.34**
Plt. x10^3/µl	1	630	600	1230	876	3.50	**3.70**	30	10	0.66	**2.08**
Retic %	2	1.7	1.6	3.3	8	0.14	**-1.26**	0.1	0.3	0.02	**-0.67**

P.S . Assesment

		YOUR REPORT	CONSENSUS REPORT
DLC%	3	Nrbcs=0 , Poly=0 L=69, E=2, Mono/Promono=2 , B1=0 P.M.=0, Mye=0, Meta=0, Other=	Lympho: 35-55, Poly: 35-46, Mono: 2-5, nRBC/Blast/Eosino/Myelo/Meta: 1-2
RBC Morphology	3	normocytic normochromic to normocytic hypochromic.	Normocytic/Normochromic; Moderate: Anisocytosis, Microcytosis, Hypochromia; Mild: Macrocytosis, Poikilocytosis
Diagnosis	3	LYMPHOPROLIFEARTIVE DISORDER POSSIBLY CHRONIC LYMHOCYTIC LEUKAEMIA	Chronic lymphoproliferative disorder (CLPD)

COMBINED DATA VALUES OF TOTAL PARTICIPANTS

Test parameters	S.No.	Total participants covered in the current dist. 155--C	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	320	319	89.66	89.97	6.9	5.96	3.44	4.07
RBC $x10^6$/µl	1	320	320	97.81	90.63	1.56	4.06	0.63	5.31
Hb g/dl	1	320	320	90.94	90.94	3.75	2.81	5.31	6.25
HCT%	1	320	319	92.48	89.97	6.27	6.58	1.25	3.45
MCV-fl	1	320	319	96.87	89.97	2.51	5.64	0.62	4.39
MCH-Pg	1	320	319	94.98	90.91	4.39	4.7	0.63	4.39
MCHC-g/dl	1	320	319	90.6	91.22	6.9	3.76	2.5	5.02
Plt. $x10^3$/µl	1	320	319	92.48	90.91	5.64	3.76	1.88	5.33
ReticCount%	2	320	320	88.44	89.69	4.69	2.5	6.87	7.81
PS Assessment	3	320	286	Satisfactory :56.57%, Borderline Sat. :32.18%, Unsatisfactory :11.25%					

*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)
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

PC-1002

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

EQAP CODE No. : 1433 **Distribution No.:** 156-C **Month/Year:** May/2022

Instrument ID: 665000215

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: 12-07-2022[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 x10^3/µl	1	27.09	26.58	53.67	41.39	0.2760	**0.57**	0.51	0.21	0.0140	**1.01**
RBC x10^6/µl	1	4.32	4.31	8.63	8.63	0.0080	**0.02**	0.01	0.03	0.0020	**-0.54**
Hb g/dl	1	13.1	13	26.1	26.45	0.0330	**-0.43**	0.1	0.1	0.0080	**0.00**
HCT%	1	40.34	40.33	80.67	83.65	0.2070	**-0.48**	0.01	0.4	0.0240	**-1.05**
MCV-fl	1	94	93	187	194.15	0.4040	**-0.60**	1	0.3	0.0250	**1.18**
MCH-Pg	1	30.3	30	60.3	61.15	0.0840	**-0.38**	0.3	0.2	0.0160	**0.45**
MCHC-g/dl	1	32.4	32.2	64.6	62.6	0.1590	**0.44**	0.2	0.3	0.0170	**-0.34**
Plt. x10^3/µl	1	205	183	388	345.5	3.20	**0.42**	22	5	0.31	**3.28**
Retic %	2	3.4	3.3	6.7	7.9	0.12	**-0.35**	0.1	0.3	0.02	**-0.90**

P.S . Assesment

		YOUR REPORT	CONSENSUS REPORT
DLC%	3	Nrbcs=02 , Poly=28 L=11, E=1, Mono/Promono=2 , B1=58 P.M.=, Mye=, Meta=, Other=	Blast: 49-70, Lympho: 12-27 ,Poly: 9-17,/mono:1-5 nRBC/Eosino/Myelo/Meta/promyelo: 0-2
RBC Morphology	3	normocytic normochromic	Predominantly: Normocytic/ Normochromic, Moderate: Anisocytosis, Microcytic , macrocytes, Tear drop cells
Diagnosis	3	Acute leukaemia	Acute Leukemia (AL)

COMBINED DATA VALUES OF TOTAL PARTICIPANTS

Test parameters	S.No.	Total participants covered in the current dist. 156--C	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	347	345	99.13	89.86	0.29	3.48	0.58	6.66
RBC $x10^6$/µl	1	347	347	91.07	90.78	4.61	3.75	4.32	5.47
Hb g/dl	1	347	347	85.88	87.9	6.63	4.61	7.49	7.49
HCT%	1	347	346	88.44	89.02	4.91	3.76	6.65	7.22
MCV-fl	1	347	346	88.44	91.91	3.76	4.62	7.8	3.47
MCH-Pg	1	347	346	87.28	87.57	5.78	6.94	6.94	5.49
MCHC-g/dl	1	347	346	91.62	86.42	4.91	4.91	3.47	8.67
Plt. $x10^3$/µl	1	347	346	95.38	91.91	3.47	3.47	1.15	4.62
ReticCount%	2	347	329	90.88	82.07	7.29	12.77	1.83	5.16
PS Assessment	3	347	326	Satisfactory :94.27%, Borderline Sat. :4.59%, Unsatisfactory :1.14%					

*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)
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. 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

PC-1002

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

EQAP CODE No. : 1433 **Distribution No.:** 157-C **Month/Year:** August/2022

Instrument ID: A 380-CELLT SN 665000215

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: 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 x10^3/µl	1	2.96	2.51	5.47	7.33	0.0270	**-2.99**	0.45	0.1	0.0060	**3.15**
RBC x10^6/µl	1	4.04	4.03	8.07	8.15	0.0070	**-0.40**	0.01	0.03	0.0020	**-0.54**
Hb g/dl	1	11.8	11.8	23.6	26.4	0.0210	**-4.72**	0	0.1	0.0070	**-1.35**
HCT%	1	40.31	40.22	80.53	80.4	0.1490	**0.03**	0.09	0.4	0.0240	**-0.84**
MCV-fl	1	100	100	200	198.2	0.2750	**0.24**	0	0.3	0.0220	**-0.67**
MCH-Pg	1	29.3	29.2	58.5	64.9	0.0590	**-3.92**	0.1	0.3	0.0160	**-0.67**
MCHC-g/dl	1	29.3	29.3	58.6	65.5	0.1230	**-1.94**	0	0.3	0.0180	**-1.01**
Plt. x10^3/µl	1	148	141	289	313	1.02	**-0.77**	7	5	0.28	**0.45**
Retic %	2	0.85	0.8	1.65	3.8	0.08	**-0.97**	0.05	0.2	0.02	**-0.51**

P.S . Assesment

		YOUR REPORT	CONSENSUS REPORT
DLC%	3	Nrbcs=0 , Poly=24 L=62, E=2, Mono/Promono=1 , B1=11 P.M.=, Mye=, Meta=, Other=	Blast: 30-54, Lympho: 20-40, Poly: 12-21, nRBC/Eos/Baso/Mono /Myelo/Meta/ Promyelo: 0-5
RBC Morphology	3	NORMOCYTIC HYPOCHROMIC TO MICROCYTIC HYPOCHROMIC	Predominantly: Normocytic/ Normochromic, Moderate: Anisocytosis, Microcytic
Diagnosis	3	LYPMHOPROLIFERATIVE DISORDER ? ACUTE LEUKAEMIA	Acute Leukemia (AL)

COMBINED DATA VALUES OF TOTAL PARTICIPANTS

Test parameters	S.No.	Total participants covered in the current dist. 157--C	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	338	338	79.29	89.05	5.03	5.03	15.68	5.92
RBC $x10^6$/µl	1	338	338	89.05	90.83	7.1	3.55	3.85	5.62
Hb g/dl	1	338	338	89.94	89.05	5.62	5.33	4.44	5.62
HCT%	1	338	338	91.12	88.76	5.33	6.21	3.55	5.03
MCV-fl	1	338	338	91.12	96.45	6.21	1.78	2.67	1.77
MCH-Pg	1	338	338	89.64	90.24	6.21	3.85	4.15	5.91
MCHC-g/dl	1	338	338	93.79	92.6	3.55	4.44	2.66	2.96
Plt. $x10^3$/µl	1	338	338	93.79	88.46	2.96	7.69	3.25	3.85
ReticCount%	2	338	300	93	90	4.33	0.67	2.67	9.33
PS Assessment	3	338	303	Satisfactory :86.99%, Borderline Sat. :7.39%, Unsatisfactory :5.62%					

*Comments:

1). Among Lab (EQA) : CBC result for HB & MCH unacceptable, please check calibration/human error.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.
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. 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

PC-1002

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

EQAP CODE No. : 1433 **Distribution No.:** 158-C **Month/Year:** November/2022

Instrument ID: A380-CELLT/ 665000215

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: 02-01-2023[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 x10^3/µl	1	6.58	6.46	13.04	14.49	0.030	**-1.92**	0.12	0.1	0.008	**0.18**
RBC x10^6/µl	1	4.14	4.05	8.19	8.15	0.007	**0.21**	0.09	0.03	0.002	**1.62**
Hb g/dl	1	11	10.9	21.9	23.4	0.020	**-2.89**	0.1	0.1	0.007	**0.00**
HCT%	1	34.23	33.34	67.57	73.3	0.144	**-1.29**	0.89	0.3	0.023	**1.99**
MCV-fl	1	83	82	165	180.8	0.301	**-1.61**	1	0.3	0.020	**1.89**
MCH-Pg	1	27.2	26.4	53.6	57.3	0.053	**-2.63**	0.8	0.2	0.015	**2.70**
MCHC-g/dl	1	33.1	31.9	65	63.4	0.126	**0.41**	1.2	0.3	0.018	**3.04**
Plt. x10^3/µl	1	322	316	638	570	2.175	**1.12**	6	6	0.352	**0.00**
Retic %	2	2.9	2.8	5.7	10	0.171	**-0.97**	0.1	0.4	0.023	**-0.51**

P.S . Assesment

		YOUR REPORT	CONSENSUS REPORT
DLC%	3	Nrbcs=0 , Poly=13 L=81, E=1, Mono/Promono=3 , B1=2 P.M.=, Mye=, Meta=, Other=	Lymp: 77-89, Poly: 6-12, blast: 1-8, nRBC/mono/Eosino/Myelo/Meta: 0-5
RBC Morphology	3	normocytoc hypochromic	Predominantly: Normocytic/Normochromic; Moderate: Anisocytosis, Microcytosis, Hypochromia; Mild: Macrocytosis, Poikilocytosis ,Few smudge cells seen.
Diagnosis	3	Chronic lymphocytic leukaemia	Chronic lymphoproliferative disorder

COMBINED DATA VALUES OF TOTAL PARTICIPANTS

Test parameters	S.No.	Total participants covered in the current dist. 158--C	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	321	321	81.31	82.87	6.85	8.1	11.84	9.03
RBC x10^6/µl	1	321	321	90.34	91.9	6.54	3.74	3.12	4.36
Hb g/dl	1	321	321	92.83	90.65	4.05	4.05	3.12	5.3
HCT%	1	321	321	97.2	92.21	2.18	4.98	0.62	2.81
MCV-fl	1	321	321	98.44	93.77	0.93	2.8	0.63	3.43
MCH-Pg	1	321	321	89.72	92.52	6.54	4.67	3.74	2.81
MCHC-g/dl	1	321	321	97.51	91.9	1.87	4.67	0.62	3.43
Plt. x10^3/µl	1	321	321	93.46	92.52	3.43	4.36	3.11	3.12
ReticCount%	2	321	302	92.05	93.71	4.64	5.96	3.31	0.33
PS Assessment	3	321	297	Satisfactory :94.08%, Borderline Sat. :2.49%, Unsatisfactory :3.42%					

***Comments:**

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

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

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

PC-1002

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

EQAP CODE No. : 1433 **Distribution No.:** 159-C **Month/Year:** February/2023

Instrument ID: A380_CELLT SN 665000215

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: 05-04-2023[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	2.23	2.1	4.33	4.23	0.017	**0.24**	0.13	0.08	0.004	**0.75**
RBC x10^6/µl	1	3.09	3.04	6.13	6.06	0.006	**0.43**	0.05	0.03	0.002	**0.67**
Hb g/dl	1	10.1	10	20.1	20.8	0.018	**-1.57**	0.1	0.1	0.007	**0.00**
HCT%	1	29.81	29.64	59.45	64.7	0.116	**-1.34**	0.17	0.3	0.020	**-0.44**
MCV-fl	1	98	96	194	213.4	0.339	**-1.64**	2	0.3	0.024	**3.82**
MCH-Pg	1	32.7	32.5	65.2	68.7	0.071	**-1.69**	0.2	0.3	0.018	**-0.34**
MCHC-g/dl	1	33.7	33.6	67.3	63.9	0.115	**0.81**	0.1	0.3	0.018	**-0.67**
Plt. x10^3/µl	1	78	71	149	174	0.707	**-1.20**	7	3	0.194	**1.35**
Retic %	2	0.45	0.4	0.85	8.9	0.145	**-1.86**	0.05	0.4	0.021	**-1.57**

P.S . Assesment

		YOUR REPORT	CONSENSUS REPORT
DLC%	3	Nrbcs=2 , Poly=41 L=55, E=2, Mono/Promono=0 , B1=0 P.M.=0, Mye=0, Meta=0, Other=	Poly: 43-54 , Lympho: 40-50 , Mono: 2-6, Eosino: 1-3 , nRBC:0-2, blast/Promyelo/Myelo/Meta: 0
RBC Morphology	3	MAINLY NORMOCYTIC HYPOCHROMIC,FEW SICKLE SHAPED RED BLOOD SEEN.	Predominantly: Normocytic/Normochromic; Moderate: Anisocytosis, Microcytosis, Hypochromia; Mild: Poikilocytosis , Target cells , Sickle shaped cells ,tear drop cells
Diagnosis	3	SICKLE CELL DISEASE	Hemoglobinopathy Likely sickle cell-Beta Thalassemia

COMBINED DATA VALUES OF TOTAL PARTICIPANTS

Test parameters	S.No.	Total participants covered in the current dist. 159--C	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	349	347	84.73	92.8	6.05	1.15	9.22	6.05
RBC x10^6/µl	1	349	349	91.4	87.39	5.73	5.73	2.87	6.88
Hb g/dl	1	349	349	90.54	92.84	5.44	3.44	4.02	3.72
HCT%	1	349	347	98.56	88.18	0.86	6.34	0.58	5.48
MCV-fl	1	349	347	99.42	92.22	0.58	3.75	0	4.03
MCH-Pg	1	349	347	93.95	87.03	4.03	5.48	2.02	7.49
MCHC-g/dl	1	349	347	97.69	87.03	2.02	6.92	0.29	6.05
Plt. x10^3/µl	1	349	347	90.2	91.35	6.63	4.03	3.17	4.62
ReticCount%	2	349	331	94.56	82.48	4.23	13.29	1.21	4.23
PS Assessment	3	349	314	Satisfactory :88.83%, Borderline Sat. :8.02%, Unsatisfactory :3.15%					

***Comments:**

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

2). Within Lab (IQA) : Difference in the CBC measurement values for *MCV* 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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PT Co-ordinator: ISHTM-AIIMS-EQAP
Department of Hematology, AIIMS, New Delhi

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

Date	Investigation	Root Cause analysis	Corrective action	Preventive action
Aug-22	CBC for Hb and MCV (ESA) WBC Count (IQA)	Calibration of Cell Counter	Called Engineer To Calibrate Machine Cause Checked The Result from different Labs	Regularly Run Qc Internal Controls
Nov-22	CBC for MCHC	Service after Machine	Engineer Came for Servicing The Cell Counter and Checked all the Parameter	Regular Servicing Mandatorily
Feb-22	MCV (IQA)	Calibration Problem	Calibration done	QC will be checked under level.
Mar-23	Biochem T. Bil. & Albumin not acceptable	QC was not accurate/acceptable	QC Re Run after Level found OK	
May-23	Biochem - Blue Bilirubin Albumin S. Cholesterol Not Available	Technician error. new Test did the test which expired	New Technician advice not to run or do any test without the supervision of senior	Senior will verify the report.
Jun-23	Biochemistry uric acid	Reagent value was not checked properly	Test done after proper dilution found OK	Trainee have to call by Pathologist for the same.