



614 McKinley Place NE  
Minneapolis, MN 55413

## Traceability CBC-ST PLUS Hematology Controls

R&D Systems, Inc Hematology Control and Calibrator values are traceable to standard reference methods.

Hematology analyzers in R&D Systems' Quality Assurance Laboratory are whole blood calibrated to values obtained using the following standard reference methods. Whole blood samples drawn from normal, healthy donors are collected in EDTA anticoagulant and analyzed within six hours of collection.

The **White Blood Cell (WBC)** and **Red Blood Cell (RBC)** are analyzed on a Coulter Counter Z series instrument. All counts are corrected for coincidence.

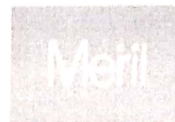
**Hemoglobin** is measured using the Clinical Laboratory Standards Institute (CLSI) recommended reagent for the hemoglobincyanide (cyanmethemoglobin) method<sup>(1)</sup>. Readings are made at 540 nm in a colorimeter/spectrophotometer calibrated according to CLSI H15-A3 and ICSH recommendations<sup>(1)</sup>.

The **hematocrit** (packed cell volume) is measured using plain glass microhematocrit tubes (not coated with anticoagulant) centrifuged for 5 minutes in a microhematocrit centrifuge according to the CLSI H7-A3 document<sup>(2)</sup>. No correction is made for trapped plasma.

**Platelets** are assayed using a hemocytometer and phase contrast optics.

1. National Committee for Clinical Laboratory Standards (now Clinical Laboratory Standards Institute.) Reference and Selected Procedures for the Quantitative Determination of Hemoglobin in Blood: Approved Standard-Third Edition. NCCLS document H15-A3. Wayne, PA: NCCLS, 2000.
2. National Committee for Clinical Laboratory Standards (now Clinical Laboratory Standards Institute.) Procedure for Determining Packed Cell Volume by the Microhematocrit Method: Approved Standard, NCCLS document H7-A3. NCCLS, Wayne, PA: NCCLS, 2001.

All brands and products are trademarks or registered trademarks of their respective companies.



### Calibration Certificate

This is to certify that Haematology Analyzer **CelQuant-3 Prime** Instrument Serial. No. **CQP30191216** installed at **IVY Hospital, Nawanshahar** has been calibrated by our engineer on **01-May-2021** with appropriate and sophisticated tools. Below parameters are been calibrated:

This calibration includes preventive maintenance, calibration of all moving parts.

#### TEST ITEMS AND RESULT

Appearance	OK
Test Speed	OK
Suction sample program	OK
Valve and optical application	OK
Motor & valve	OK
Gain adjustment and red, white MCV test	OK
Sample Volume	OK
Diameter Orifice	OK
Hydraulic Unit	OK
Power Consumption	250V 4A
Fuse check	OK
Power Supply and Earthing	230 Volts and Grounding less then 5V

This Calibration Certificate is Valid Up to **30-April-2022**.

Conclusion: All parameter are within range. The Machine is working properly. (As per Meril terms.)

Engineer Name: **Mr. Amit Kumar**

Designation: **Service Specialist**



IVY HOSPITAL

ID:  
 Date: 01-05-2021 13:33  
 No.: 217622  
 Mode: WB  
 Patient:

Sex:           Age:    Years  
 Bed No:  
 Dept:  
 Case No:

Item:	Result:	
WBC	0	10 <sup>3</sup> /uL
RBC	0	10 <sup>6</sup> /uL
HGB	0	g/dL
HCT	***	%
MCV	***	fL
MCH	***	pg
MCHC	***	g/dL
PLT	0	10 <sup>3</sup> /uL
LYM#	***	10 <sup>3</sup> /uL
MXD#	***	10 <sup>3</sup> /uL
NEUT#	***	10 <sup>3</sup> /uL
LYM%	***	%
MXD%	***	%
NEUT%	***	%
RDW-CV	***	%
RDW-SD	***	fL
PDW	***	fL
MPV	***	fL
P-LCR	***	%
PCT	***	%
P-LCC	***	10 <sup>3</sup> /uL

IVY HOSPITAL

ID:  
Date: 01-05-2021 10:01  
No. : 1  
Mode: WB  
Patient:  
Sex: Age: Years  
Bed No:  
Dept:  
Case No:  
Item: Result:  
WBC 5.7 10<sup>3</sup>/uL  
RBC 3.5 10<sup>6</sup>/uL  
HGB ↓9.1 g/dL  
HCT ↓31.3 %  
MCV 89.3 fL  
MCH 26 pg  
MCHC ↓29.1 g/dL  
PLT 418 10<sup>3</sup>/uL  
LYM# 1.19 10<sup>3</sup>/uL  
MXD# 0.61 10<sup>3</sup>/uL  
NEUT# 3.9 10<sup>3</sup>/uL  
LYM% 20.8 %  
MXD% 10.8 %  
NEUT% 68.4 %  
RDW-CV ↑16.9 %  
RDW-SD 50.4 fL  
PDW 15.8 fL  
MPV 10.3 fL  
P-LCR 25.8 %  
PCT ↑0.431 %  
P-LCC 108 10<sup>3</sup>/uL

IVY HOSPITAL

ID:  
Date: 01-05-2021 10:05  
No. : 2  
Mode: WB  
Patient:  
Sex: Age: Years  
Bed No:  
Dept:  
Case No:  
Item: Result:  
WBC 5.73 10<sup>3</sup>/uL  
RBC 3.51 10<sup>6</sup>/uL  
HGB ↓9.2 g/dL  
HCT ↓31.3 %  
MCV 89.2 fL  
MCH 26.2 pg  
MCHC ↓29.4 g/dL  
PLT 402 10<sup>3</sup>/uL  
LYM# 1.1 10<sup>3</sup>/uL  
MXD# 0.37 10<sup>3</sup>/uL  
NEUT# 4.26 10<sup>3</sup>/uL  
LYM% 19.1 %  
MXD% 6.4 %  
NEUT% 74.5 %  
RDW-CV ↑17 %  
RDW-SD 51.3 fL  
PDW ↓12.6 fL  
MPV 9.7 fL  
P-LCR 23.9 %  
PCT ↑0.39 %  
P-LCC 96 10<sup>3</sup>/uL

IVY HOSPITAL

ID:  
Date: 01-05-2021 10:07  
No. : 3  
Mode: WB  
Patient:  
Sex: Age: Years  
Bed No:  
Dept:  
Case No:  
Item: Result:  
WBC 5.47 10<sup>3</sup>/uL  
RBC 3.51 10<sup>6</sup>/uL  
HGB ↓9.2 g/dL  
HCT ↓31.1 %  
MCV 88.7 fL  
MCH 26.2 pg  
MCHC ↓29.6 g/dL  
PLT 391 10<sup>3</sup>/uL  
LYM# 1.05 10<sup>3</sup>/uL  
MXD# 0.44 10<sup>3</sup>/uL  
NEUT# 3.98 10<sup>3</sup>/uL  
LYM% 19.3 %  
MXD% 8 %  
NEUT% 72.7 %  
RDW-CV ↑16.6 %  
RDW-SD 49.5 fL  
PDW ↓12.7 fL  
MPV 9.8 fL  
P-LCR 24.3 %  
PCT ↑0.383 %  
P-LCC 95 10<sup>3</sup>/uL

IVY HOSPITAL

ID:  
Date: 01-05-2021 10:09  
No. : 4  
Mode: WB  
Patient:  
Sex: Age: Years  
Bed No:  
Dept:  
Case No:  
Item: Result:  
WBC 5.7 10<sup>3</sup>/uL  
RBC 3.58 10<sup>6</sup>/uL  
HGB ↓9.4 g/dL  
HCT ↓31.9 %  
MCV 89.2 fL  
MCH 26.3 pg  
MCHC ↓29.5 g/dL  
PLT 412 10<sup>3</sup>/uL  
LYM# 1.1 10<sup>3</sup>/uL  
MXD# ↑1.2 10<sup>3</sup>/uL  
NEUT# 3.4 10<sup>3</sup>/uL  
LYM% 19.3 %  
MXD% ↑21.1 %  
NEUT% 59.6 %  
RDW-CV ↑17.2 %  
RDW-SD 49.5 fL  
PDW 16.8 fL  
MPV 10.5 fL  
P-LCR 26.1 %  
PCT ↑0.433 %  
P-LCC 108 10<sup>3</sup>/uL

IVY HOSPITAL

ID:  
Date: 01-05-2021 10:11  
No. : 5  
Mode: WB  
Patient:  
Sex: Age: Years  
Bed No:  
Dept:  
Case No:  
Item: Result:  
WBC 5.63 10<sup>3</sup>/uL  
RBC ↓3.49 10<sup>6</sup>/uL  
HGB ↓9.2 g/dL  
HCT ↓31.1 %  
MCV 89.1 fL  
MCH 26.4 pg  
MCHC ↓29.6 g/dL  
PLT 411 10<sup>3</sup>/uL  
LYM# 1.09 10<sup>3</sup>/uL  
MXD# 0.66 10<sup>3</sup>/uL  
NEUT# 3.88 10<sup>3</sup>/uL  
LYM% 19.4 %  
MXD% 11.8 %  
NEUT% 68.8 %  
RDW-CV ↑17 %  
RDW-SD 49.5 fL  
PDW 16.5 fL  
MPV 10.6 fL  
P-LCR 26.5 %  
PCT ↑0.436 %  
P-LCC 109 10<sup>3</sup>/uL

IVY HOSPITAL

ID:  
Date: 01-05-2021 10:14  
No. : 6  
Mode: WB  
Patient:  
Sex: Age: Years  
Bed No:  
Dept:  
Case No:  
Item: Result:  
WBC 5.39 10<sup>3</sup>/uL  
RBC 3.51 10<sup>6</sup>/uL  
HGB ↓9.1 g/dL  
HCT ↓31.1 %  
MCV 88.7 fL  
MCH ↓25.9 pg  
MCHC ↓29.3 g/dL  
PLT 418 10<sup>3</sup>/uL  
LYM# 1.23 10<sup>3</sup>/uL  
MXD# ↑1.12 10<sup>3</sup>/uL  
NEUT# 3.04 10<sup>3</sup>/uL  
LYM% 22.8 %  
MXD% ↑20.7 %  
NEUT% 56.5 %  
RDW-CV ↑16.6 %  
RDW-SD 49.5 fL  
PDW 16.1 fL  
MPV 10.5 fL  
P-LCR 26.3 %  
PCT ↑0.439 %  
P-LCC 110 10<sup>3</sup>/uL

IVY HOSPITAL

ID:  
 Date: 01-05-2021 10:17  
 No. : 7  
 Mode: WB  
 Patient:  
 Sex:           Age:    Years  
 Bed No:  
 Dept:  
 Case No:  
 Item:            Result:  
 WBC            5.6    10<sup>3</sup>/uL  
 RBC            3.5    10<sup>6</sup>/uL  
 HGB            ↓9.2   g/dL  
 HCT            ↓31.1   %  
 MCV            88.8   fL  
 MCH            26.3   pg  
 MCHC           ↓29.6   g/dL  
 PLT            395    10<sup>3</sup>/uL  
 LYM#           1.2    10<sup>3</sup>/uL  
 MXD#           0.8    10<sup>3</sup>/uL  
 NEUT#          3.6    10<sup>3</sup>/uL  
 LYM%           21.5   %  
 MXD%           14.2   %  
 NEUT%          64.3   %  
 RDW-CV         ↑16.8   %  
 RDW-SD         49.5   fL  
 PDW            15.2   fL  
 MPV            10.2   fL  
 P-LCR           25.2   %  
 PCT            ↑0.403   %  
 P-LCC           100    10<sup>3</sup>/uL

IVY HOSPITAL

ID:  
 Date: 01-05-2021 10:19  
 No. : 8  
 Mode: WB  
 Patient:  
 Sex:           Age:    Years  
 Bed No:  
 Dept:  
 Case No:  
 Item:            Result:  
 WBC            5.56   10<sup>3</sup>/uL  
 RBC            3.5    10<sup>6</sup>/uL  
 HGB            ↓9.2   g/dL  
 HCT            ↓31    %  
 MCV            88.5   fL  
 MCH            26.3   pg  
 MCHC           ↓29.7   g/dL  
 PLT            406    10<sup>3</sup>/uL  
 LYM#           1.21   10<sup>3</sup>/uL  
 MXD#           0.55   10<sup>3</sup>/uL  
 NEUT#          3.8    10<sup>3</sup>/uL  
 LYM%           21.7   %  
 MXD%           10    %  
 NEUT%          68.3   %  
 RDW-CV         ↑17.3   %  
 RDW-SD         50.4   fL  
 PDW            ↓12.8   fL  
 MPV            9.9    fL  
 P-LCR           24.7   %  
 PCT            ↑0.402   %  
 P-LCC           100    10<sup>3</sup>/uL

IVY HOSPITAL

ID:  
 Date: 01-05-2021 10:23  
 No. : 9  
 Mode: WB  
 Patient:  
 Sex:           Age:    Years  
 Bed No:  
 Dept:  
 Case No:  
 Item:            Result:  
 WBC            5.47   10<sup>3</sup>/uL  
 RBC            3.51   10<sup>6</sup>/uL  
 HGB            ↓9.3   g/dL  
 HCT            ↓31.1   %  
 MCV            88.7   fL  
 MCH            26.5   pg  
 MCHC           ↓29.9   g/dL  
 PLT            416    10<sup>3</sup>/uL  
 LYM#           1.16   10<sup>3</sup>/uL  
 MXD#           0.47   10<sup>3</sup>/uL  
 NEUT#          3.84   10<sup>3</sup>/uL  
 LYM%           21.1   %  
 MXD%           8.6    %  
 NEUT%          70.3   %  
 RDW-CV         ↑16.8   %  
 RDW-SD         49.5   fL  
 PDW            16    fL  
 MPV            10.3   fL  
 P-LCR           25.8   %  
 PCT            ↑0.428   %  
 P-LCC           107    10<sup>3</sup>/uL

IVY HOSPITAL

ID:  
 Date: 01-05-2021 10:29  
 No. : 10  
 Mode: WB  
 Patient:  
 Sex:           Age:    Years  
 Bed No:  
 Dept:  
 Case No:  
 Item:            Result:  
 WBC            5.5    10<sup>3</sup>/uL  
 RBC            3.53   10<sup>6</sup>/uL  
 HGB            ↓9.3   g/dL  
 HCT            ↓31.3   %  
 MCV            88.8   fL  
 MCH            26.3   pg  
 MCHC           ↓29.7   g/dL  
 PLT            393    10<sup>3</sup>/uL  
 LYM#           1.09   10<sup>3</sup>/uL  
 MXD#           0.49   10<sup>3</sup>/uL  
 NEUT#          3.92   10<sup>3</sup>/uL  
 LYM%           19.8   %  
 MXD%           8.9    %  
 NEUT%          71.3   %  
 RDW-CV         ↑17    %  
 RDW-SD         48.7   fL  
 PDW            16.4   fL  
 MPV            10.6   fL  
 P-LCR           26.8   %  
 PCT            ↑0.417   %  
 P-LCC           105    10<sup>3</sup>/uL