| LifeWell | PT EQAS RESULT REVIEW FORM |
|---|---|

Issued by QA:

| | |
|---|---|
| **Department:** Hematology CBC | **Month / Year:** May-2023 |
| **PT Provider:** MHL EQAS | **Distribution / Lot No:** 230104 |
| **Analyte(Test):** TLC | |
| **Machine used:** Advia 560 | **Kit used:** Advia 560 |
| **Test done by:** Ritika | **Done on:** 12-5-2023 |
| **Report uploaded by:** Amit Kumar | **Report uploaded on:** 12-5-2023 |
| **Software used:** & MHL PORTAL | |
| **EQAS Report received on** 22-5-2023 | |
| **Reviewed by:** Amit Kumar. **Approved by:** DR. Shweta. | |
| **Observations:** ALL RESULT Received is satisfactory, TLC is shows ±3sd deviation due to unit issue after the unit correction Value is acceptable range. | |

*If results are ungraded, please attach self-assessment.If satisfactory no corrective and preventive action required. But if unsatisfactory, corrective and preventive action is required with optimum evidence.

Self-Assessment Result: ☑ Satisfactory ☐ Unsatisfactory

Attachment: ☑ Yes ☐ No

Please investigate failure for unsatisfactory performance and submit a report to QA and Medical Director in 2 Days.

Approved by

Signature
(Lab Director/Designee)

LifeWell

# INVESTIGATION FORM FOR UNACCEPTABLE PT/EQAS RESULTS

Issued by QUA:

| | | | |
|---|---|---|---|
| Department | Haematology | | |
| PT provider | MHL EQAS | | |
| Survey Name: | MHL EQAS 230104 | | |
| Date Survey received | 07-5-2023 | Date Analysis Performed: | 12-5-2023 |
| Date Survey Results Submitted | 12-5-2023 | Date Results received: | 22-5-2023 |

| | | | |
|---|---|---|---|
| Investigation performed by | AMIT KUMAR | | |
| Lab director | DR. SHWETA | Date | 22-5-2023 |

| Unacceptable Result 1 | | | |
|---|---|---|---|
| Specimen No. | 03 | Analyte | TLC |
| Reported result | 1.5 | Intended result/range | 1500 |
| Acceptable Lower Limit | 775.62 | Acceptable Higher Limit | 1672.9 |
| SD | 224.32 | CV% | 20.50 |

| Unacceptable Result 2 | | | |
|---|---|---|---|
| Specimen No. | 04 | Analyte | TLC |
| Reported result | 8.48 | Intended result/range | 8480 |
| Acceptable Lower Limit | 7824.96 | Acceptable Higher Limit | 11615.04 |
| SD | 947.52 | CV% | 9.75 |

| Unacceptable Result 3 | | | |
|---|---|---|---|
| Specimen No. | | Analyte | |
| Reported result | | Intended result/range | |
| Acceptable Lower Limit | | Acceptable Higher Limit | |
| SD | | CV% | |

## EVALUATION OF POSSIBLE SOURCES OF ERROR

| Clerical | Yes | No | N/A |
|---|---|---|---|
| Incorrect transcription of the result from the instrument read-out or report? (Check the raw data.) | | | ✓ |
| Incorrect instrument/method/reagent reported on the result form (Check instrument log book) | | | ✓ |
| Mis-match of the units of measure between the result form and the instrument results | | | ✓ |
| Incorrect decimal placement | | | ✓ |
| Errors in calculations. | | | ✓ |
| Mis-match between result reported on the 'result form' and on the 'proficiency testing evaluation report' | | | ✓ |
| Mis-match between result reported on the 'result form' and on the 'proficiency testing evaluation report' | | | ✓ |

| | | | |
|---|---|---|---|
| Any other clerical problem? | | | ✓ |

A response of "**Yes**" to any of these questions may indicate a clerical error.

Although reporting of PT results is unlike those for patient results, clerical errors may indicate a need for additional staff training, review of instructions provided with PT or investigation of the reporting format provided by the testing device. If results reported on the result form do not match the results found on the evaluation report, please contact PT provider.

| Procedural | Yes | No | N/A |
|---|---|---|---|
| Written procedure not followed | | | ✓ |
| Improper preparation of reagents | | | ✓ |
| Reagents open stability not within acceptable range | | | ✓ |
| Faulty standards run | | | ✓ |
| Unacceptable IQC results (Run accepted in non-linear range/though controls were out of range) | | | ✓ |
| Incorrect interpretation of microscopic examinations | | | ✓ |
| Incorrect dilution or pipetting error | | | ✓ |
| Incorrect staining or interpretation | | | • |
| Time delay between reconstitution and analysis | | | ✓ |
| Media preparation related | | | ✓ |
| Antibiotic disc potency | | | ✓ |
| Any other procedural problem | | | ✓ |

A response of "**Yes**" to any of these questions may indicate a procedural error. These errors indicate inappropriate operation of equipment or performance of a method.

A review of the instructions provided with the proficiency testing material and/or review of laboratory procedures may be required.

| Analytical | Yes | No | N/A |
|---|---|---|---|
| Most recent calibration unacceptable or not within established stability limits at the time of PT | | | ✓ |
| Instrument repaired or replaced recently at time of PT run | | | ✓ |
| Review of past PT results indicate unevenly distributed data or a bias | | | ✓ |
| Intended result not within the measuring range for the instrument | | | ✓ |
| Was instrument maintenance performed on schedule? | ✓ | ✓ | |
| Review of records indicate there was related instrument/test problems noted prior to or after the PT was performed | | | ✓ |
| Any other analytical problem? | | | ✓ |

A response of "**Yes**" to any of these questions may indicate an analytical error. These types of errors could indicate a failure to follow recommended instrument maintenance and calibration.

| Specimen handling | Yes | No | N/A |
|---|---|---|---|
| Survey specimens not reconstituted as indicated in the Kit Instructions | | | ✓ |
| Survey specimens not stored as indicated in the Kit Instructions | | | ✓ |
| Special instructions provided in the Kit Instructions not performed as indicated | | | ✓ |
| Correct tests not performed on the correct vial of proficiency testing material | | | ✓ |
| Survey specimen mix-up | | | ✓ |
| Any other problem related to specimen handling? | | | ✓ |

A response of "**Yes**" to any of these questions may indicate a specimen handling error. These types of errors could indicate a failure to read the material provided with the Surveys materials.

| PT Material | Yes | No | N/A |
|---|---|---|---|
| Late shipment | | | ✓ |
| Hemolysed sample | | | ✓ |
| Bacterial contamination | | | ✓ |
| Perceived survey bias | | | ✓ |
| Poor growth in culture | | | ✓ |
| Unstable PT material | | | ✓ |
| Matrix effect incompatible with method | | | ✓ |
| No comparable peer group | | | ✓ |
| Inappropriate peer group based on method reported on result form | | | ✓ |
| Acceptable range too low | | | ✓ |
| Any other problem? | | | ✓ |

A response of "**Yes**" to any of these questions may indicate a problem with the PT material. If a delay in receipt of material in the laboratory is an issue, ensure timely receipt of Surveys after arrival in the institution. If you believe your result was compared to an inappropriate peer group, verify the method reported on the result form. Contact PT provider for additional information if needed.

| Miscellaneous | Yes | No | N/A |
|---|---|---|---|
| Was analysis performed by technically competent personnel? (Check technical competence records) | ✓ | | |
| Were all patient reports satisfactory on day of run? (i.e. there were no patient complaints) | ✓ | | |
| Were the results of rerun (where possible) the same? | ✓ | | |
| Any other actions (please specify) | | | ✓ |

## SUMMARY REPORT

**Root-cause analysis**

UNIT issue found.

**Corrective Action proposed**

Unit changed as required.

**Corrective Action taken (To be filled within 30 days of receipt of EQAS result)**

Unit changed ~~done~~ after that EQAS TLC result found within the ±2 sd limits.

**Evidence that problem is solved after corrective action (To be attached)**

Attaching instrument printout, EQAS Report.

| Preventive Action (if any) proposed: |
| --- |
| Result will review after or before Submitting on the portal by the Lab incharge, Lab head or Lab director. |
| **Conclusion and future plan if no evidence found:** |
| Result will review after or before Submitting on the portal by the Lab incharge, manager and Lab head or Director. |

| | |
| --- | --- |
| Recorded by (Sign / Date) | 22-5-2023 |
| Reviewed by Lab/Medical Director (Sign / Date) | 22-5-2023 |
| Reviewed by Head – QA (Sign / Date) | 22-5-2023 |

# Metropolis Healthcare Ltd., EQAS

## Analyte Methodwise Result Report

Lab : 880
Lab Name : LIFEWELL DIAGNOSTICS PVT LTD (CHANDIGARH)
Report Date : 19/05/2023

Cycle No : 230104
Sample No : 03
Sample Date : 14/04/2023

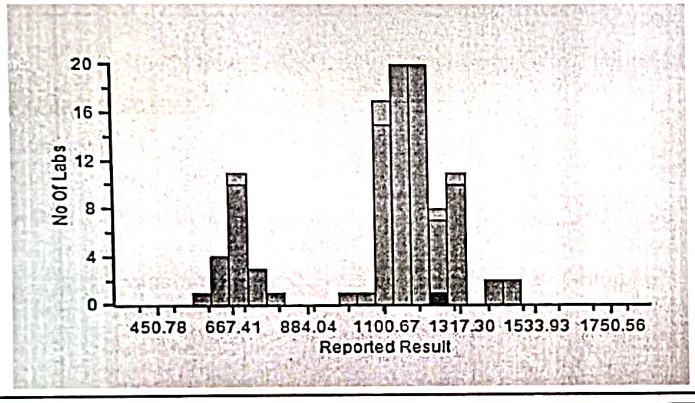
### Haematology - CBC, Total Leucocytes (WBC) count, /c.mm

| Comparative Statistics | N | Mean | SD | CV% | Excluded |
|---|---|---|---|---|---|
| All Methods | 167 | 1,099.66 | 217.27 | 19.76 | 48 |
| Impedance - (Your Method) | 142 | 1,094.34 | 224.32 | 20.50 | 36 |
| ADVIA 560 - (Your Analyzer) | 7 | 1,280.00 | 0.00 | 0.00 | 6 |

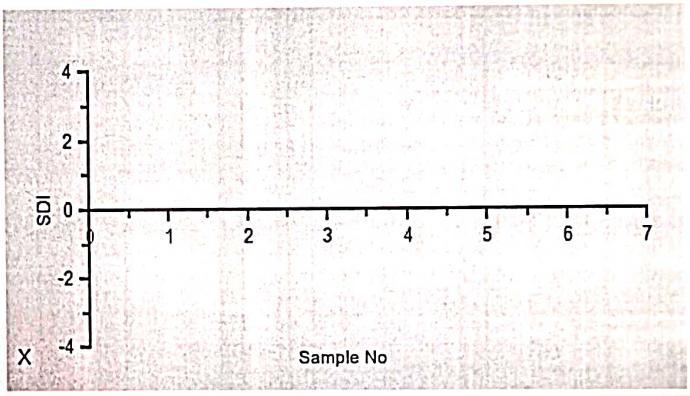
| Evaluation Based On - Equipment wise Peer Grouping | | | |
|---|---|---|---|
| Your Result | 1.50 | SDI / z-Score | * |
| Assigned Value | 1,224.26 | Average SDI | 0.00 |
| SDPA | 87.400 | Uncertainity of AV | 14.96 |
| Standard Unit Result Val | 1.50 | %DEV | -99.88 |

Note : # - Not evaluated / Bimodal distribution
X : SDI more than 4

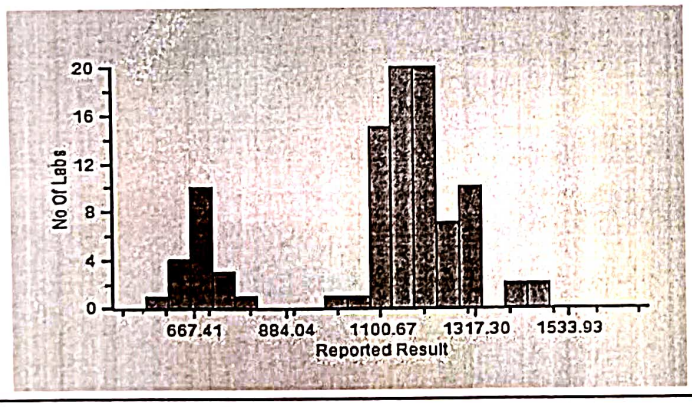
Frequency Histogram



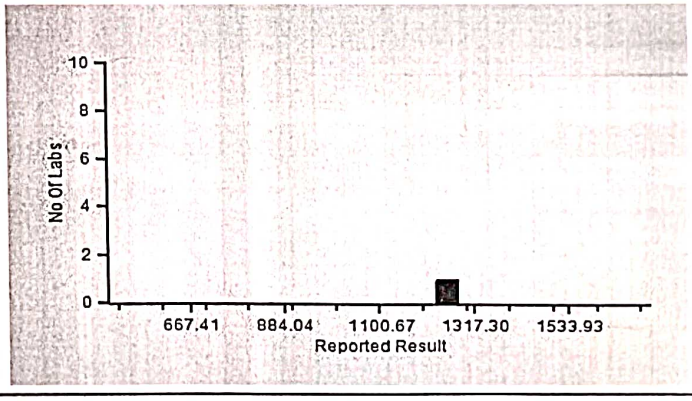

Z-Score Trend - Within Round




Frequency Histogram Your Method




Frequency Histogram Your Analyzer




PC-1022

POLIS EQASPLUS PROFICIENCY. TRAINING. EXCELLENCE

# Metropolis Healthcare Ltd., EQAS

## Analyte Methodwise Result Report

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Lab Name : LIFEWELL DIAGNOSTICS PVT LTD (CHANDIGARH)
Report Date : 19/05/2023

Cycle No : 230104
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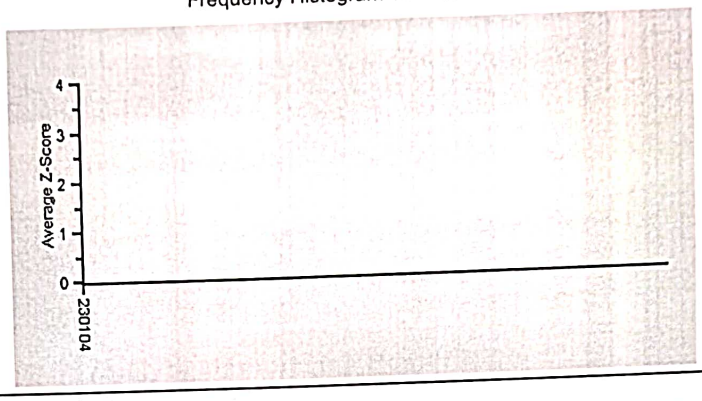
Frequency Histogram Your Method




Note : SDI with * marked are not considered for evaluation

**Comments :**

**Haematology - CBC, Total Leucocytes (WBC) count**

| | | N | Mean | SD | CV% | Excluded |
|---|---|---|---|---|---|---|
| | All Analyzer | 167 | 1,099.66 | 217.27 | 19.76 | 48 |
| Your Analyzer : | ADVIA 560 | 7 | 1,280.00 | 0.00 | 0.00 | 6 |
| | Beckman Coulter DxH 560 | 24 | 1,159.33 | 35.95 | 3.10 | 9 |
| | Beckman Coulter DxH 520 | 19 | 1,140.63 | 61.26 | 5.37 | 3 |
| | Horiba Yumizen H500 | 19 | 671.54 | 53.05 | 7.90 | 6 |
| | Beckman Coulter DxH 500 | 18 | 1,153.85 | 61.17 | 5.30 | 4 |
| | Beckman Coulter DxH 500 | 17 | 1,153.85 | 61.17 | 5.30 | 4 |
| | Horiba Yumizen H550 | 12 | 656.25 | 109.54 | 16.69 | 4 |
| | Sysmex XP-100 | 9 | 1,320.00 | 83.67 | 6.34 | 4 |

Remarks: Interpretation of your reports

a) If your SDI lies between +/- 2.0 SDI then your results are well within limits.
b) If your SDI lies between +/-2.0 to 2.99 SDI then it is a warning alert flag.
c) If your SDI is +/- 3.0 SDI or more then it is an action alert flag.

Interpretation when an analyte is reported for multiple samples in a Round:

a) Reported on 2 samples:
- Two out of two pass - Acceptable performance
- One out of two pass - Review for random error & take action if appropriate
- Both failed - Unacceptable performance, Review for systematic error

b) Reported on 3 samples:
- All pass - Acceptable performance
- Two out of three pass - Review for random error & take action if appropriate
- One out of three pass - Unacceptable performance, Review for systematic error
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Dr Puneet Kumar Nigam
PT coordinator & Technical Manager, MHL EQAS
Unit No. 409-416.
Commercial Building - 1A
Kohinoor Mall, Kirol Road, Kurla (W),
Mumbai - 400070

This is a computer generated report hence signature is not required

PC-1022

# Metropolis Healthcare Ltd., EQAS

## Analyte Methodwise Result Report

Lab : 880
Lab Name : LIFEWELL DIAGNOSTICS PVT LTD (CHANDIGARH)
Report Date : 19/05/2023

Cycle No : 230104
Sample No : 04
Sample Date : 14/04/2023

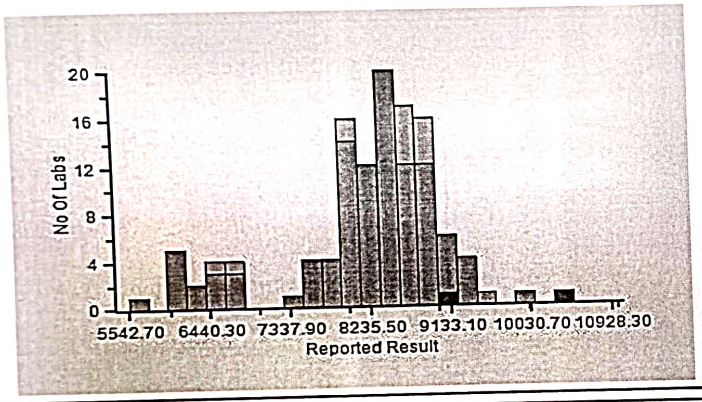
### Haematology - CBC, Total Leucocytes (WBC) count, /c.mm

| Comparative Statistics | N | Mean | SD | CV% | Excluded |
|---|---|---|---|---|---|
| All Methods | 166 | 8,233.83 | 900.93 | 10.94 | 38 |
| Impedance - (Your Method) | 142 | 8,212.39 | 914.85 | 11.14 | 29 |
| ADVIA 560 - (Your Analyzer) | 7 | 9,720.00 | 947.52 | 9.75 | 5 |

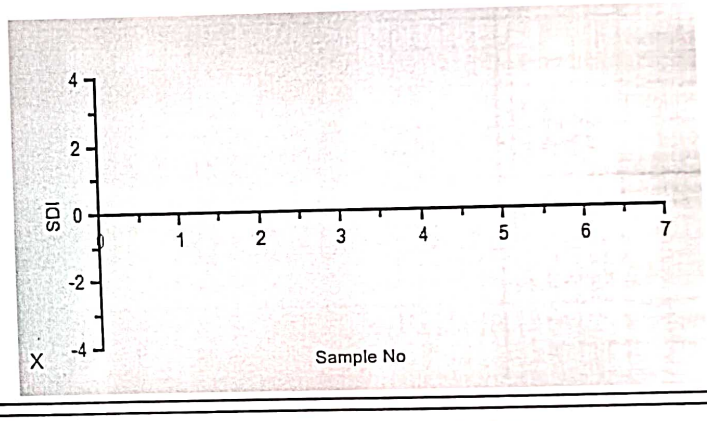
| Evaluation Based On - Equipment wise Peer Grouping | | | |
|---|---|---|---|
| Your Result | 8.48 | SDI / z-Score | * |
| Assigned Value | 8,617.43 | Average SDI | 0.00 |
| SDPA | 841.000 | Uncertainity of AV | 104.38 |
| Standard Unit Result Val | 8.48 | %DEV | -99.91 |

Note : # - Not evaluated / Bimodal distribution
X : SDI more than 4

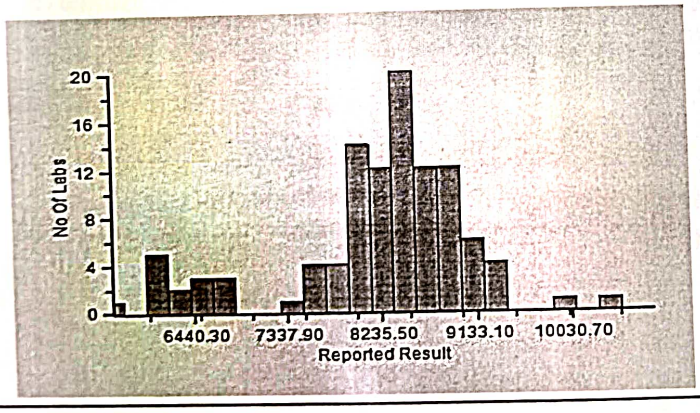
Frequency Histogram



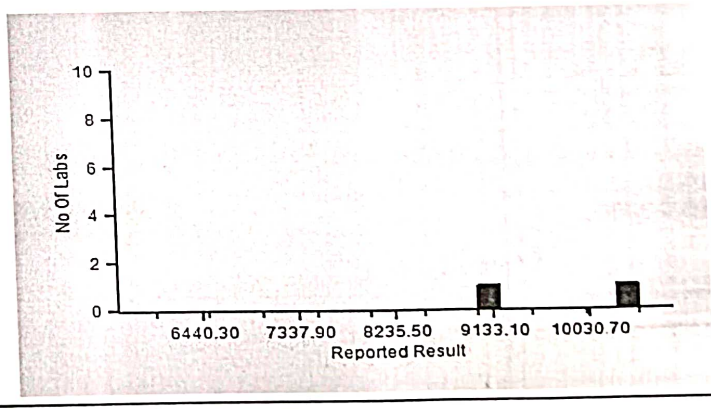

Z-Score Trend - Within Round




Frequency Histogram Your Method




Frequency Histogram Your Analyzer




PC-1022

# Metropolis Healthcare Ltd., EQAS

## Analyte Methodwise Result Report

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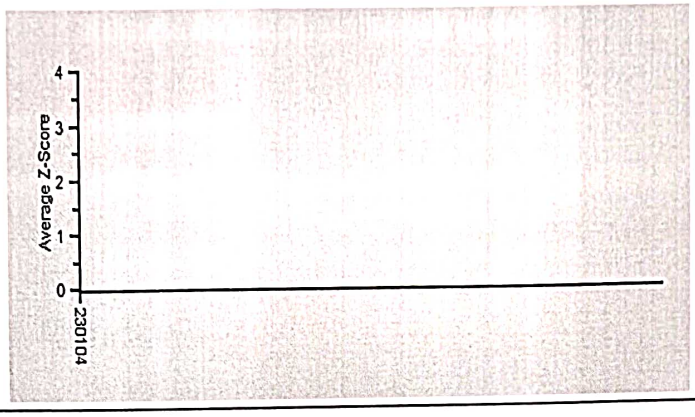
Lab Name : LIFEWELL DIAGNOSTICS PVT LTD (CHANDIGARH)
Report Date : 19/05/2023

Cycle No : 230104
Sample No : 04
Sample Date : 14/04/2023

Frequency Histogram Your Method




Note : SDI with * marked are not considered for evaluation

**Comments :**

**Haematology - CBC, Total Leucocytes (WBC) count**

| | | N | Mean | SD | CV% | Excluded |
|---|---|---|---|---|---|---|
| | All Analyzer | 166 | 8,233.83 | 900.93 | 10.94 | 38 |
| Your Analyzer : | ADVIA 560 | 7 | 9,720.00 | 947.52 | 9.75 | 5 |
| | Beckman Coulter DxH 560 | 23 | 8,508.67 | 201.95 | 2.37 | 8 |
| | Beckman Coulter DxH 520 | 19 | 8,315.63 | 520.99 | 6.27 | 3 |
| | Horiba Yumizen H500 | 19 | 6,641.33 | 859.95 | 12.95 | 4 |
| | Beckman Coulter DxH 500 | 18 | 8,166.43 | 229.03 | 2.81 | 4 |
| | Beckman Coulter DxH 500 | 17 | 8,144.62 | 222.73 | 2.74 | 4 |
| | Horiba Yumizen H550 | 12 | 7,541.11 | 1,091.00 | 14.47 | 3 |
| | Sysmex XP-100 | 9 | 8,671.43 | 390.36 | 4.50 | 2 |

Remarks: Interpretation of your reports

a) If your SDI lies between +/- 2.0 SDI then your results are well within limits.
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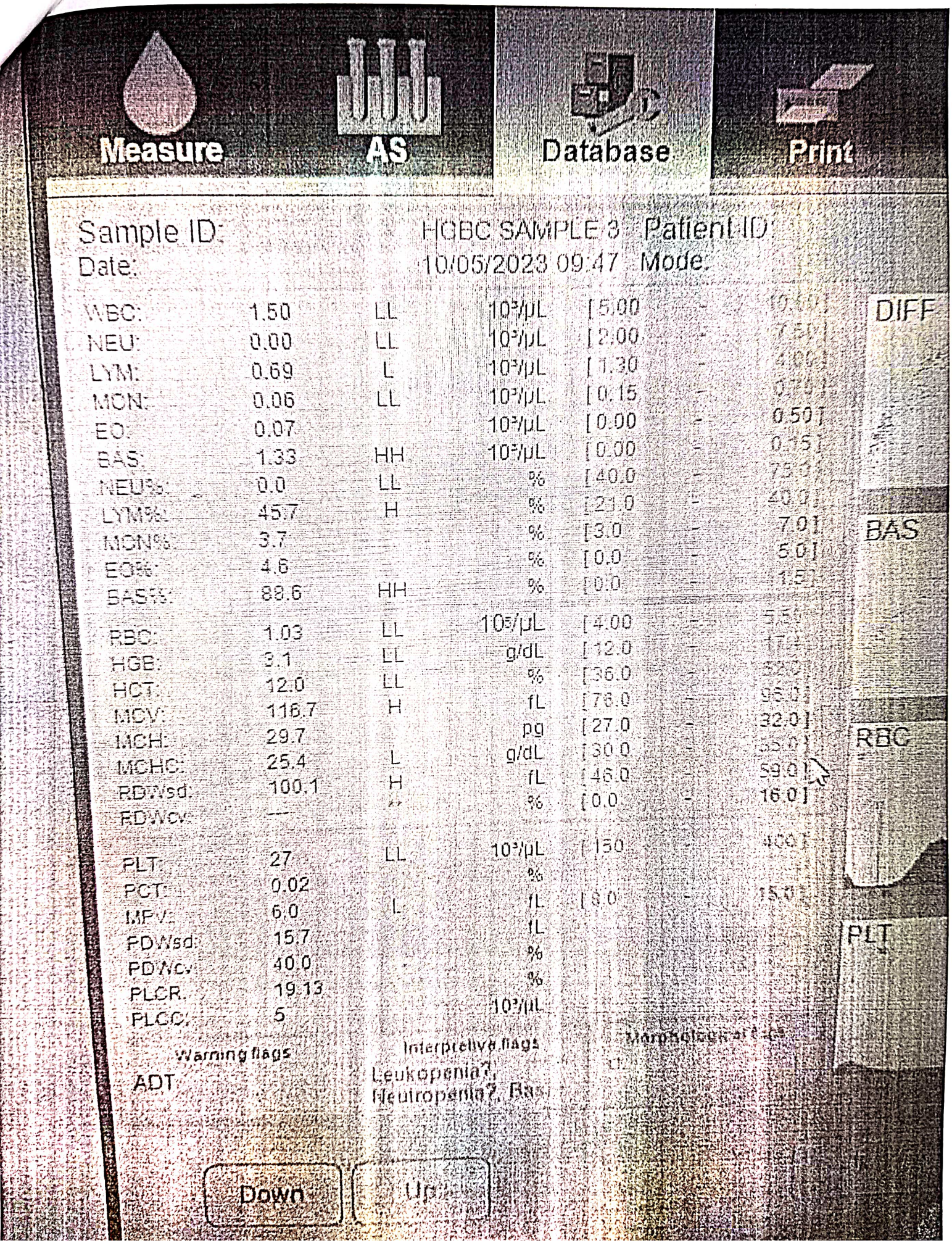
Measure
AS
Database
Print
Sample ID: HGBC SAMPLE 3 Patient ID:
Date: 10/05/2023 09:47 Mode:
WBC: 1.50 LL 10³/µL [5.00 - 10.00]
NEU: 0.00 LL 10³/µL [2.00 - 7.50]
LYM: 0.69 L 10³/µL [1.30 - 4.00]
MON: 0.06 LL 10³/µL [0.15 - 0.70]
EO: 0.07 10³/µL [0.00 - 0.50]
BAS: 1.33 HH 10³/µL [0.00 - 0.15]
NEU%: 0.0 LL % [40.0 - 75.0]
LYM%: 45.7 H % [21.0 - 40.0]
MON%: 3.7 % [3.0 - 7.0]
EO%: 4.6 % [0.0 - 5.0]
BAS%: 88.6 HH % [0.0 - 1.5]
RBC: 1.03 LL 10⁶/µL [4.00 - 5.5]
HGB: 3.1 LL g/dL [12.0 - 17.
HCT: 12.0 LL % [36.0 - 52.0]
MCV: 116.7 H fL [78.0 - 96.0]
MCH: 29.7 pg [27.0 - 32.0]
MCHC: 25.4 L g/dL [30.0 - 35.0]
RDWsd: 100.1 H fL [46.0 - 59.0]
RDWcv: — % [0.0 - 16.0]
PLT: 27 LL 10³/µL [150 - 400]
PCT: 0.02 %
MPV: 6.0 L fL [8.0 - 15.0]
PDWsd: 15.7 fL
PDWcv: 40.0 %
PLCR: 19.13 %
PLCC: 5 10³/µL
Warning flags
ADT
Interpretive flags
Leukopenia?
Neutropenia?, Bas
Morphological
Down
Up
DIFF
BAS
RBC
PLT

Measure | AS | Database | Print

Sample ID: HCBC SAMPLE 04 Patient ID:
Date: 10/05/2023 09:50 Mode:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WBC: | 8.48 | | $10^3/\mu L$ | [ 5.00 | - | 10.00 ] |
| NEU: | 0.00 | LL | $10^3/\mu L$ | [ 2.00 | - | 7.50 ] |
| LYM: | 1.72 | | $10^3/\mu L$ | [ 1.30 | - | 4.00 ] |
| MON: | 0.47 | | $10^3/\mu L$ | [ 0.15 | - | 0.70 ] |
| EO: | 0.25 | | $10^3/\mu L$ | [ 0.00 | - | 0.50 ] |
| BAS: | --- | ** | $10^3/\mu L$ | [ 0.00 | - | 0.15 ] |
| NEU%: | 0.0 | LL | % | [ 40.0 | - | 75.0 ] |
| LYM%: | 20.3 | L | % | [ 21.0 | - | 40.0 ] |
| MON%: | 5.6 | | % | [ 3.0 | - | 7.0 ] |
| EO%: | 3.0 | | % | [ 0.0 | - | 5.0 ] |
| BAS%: | --- | ** | % | [ 0.0 | - | 1.5 ] |
| RBC: | 2.15 | L | $10^6/\mu L$ | [ 4.00 | - | 5.50 ] |
| HGB: | 7.7 | L | g/dL | [ 12.0 | - | 17.0 ] |
| HCT: | 28.3 | L | % | [ 36.0 | - | 52.0 ] |
| MCV: | 131.5 | H | fL | [ 76.0 | - | 96.0 ] |
| MCH: | 35.9 | H | pg | [ 27.0 | - | 32.0 ] |
| MCHC: | 27.3 | L | g/dL | [ 30.0 | - | 36.0 ] |
| RDWsd: | 100.2 | H | fL | [ 46.0 | - | 58.0 ] |
| RDWcv: | --- | ** | % | [ 0.0 | - | 14.0 ] |
| PLT: | 211 | | $10^3/\mu L$ | [ 150 | - | 400 ] |
| PCT: | 0.16 | | % | | | |
| MPV: | 7.5 | L | fL | [ 8.0 | - | 15.0 ] |
| PDWsd: | 15.2 | | fL | | | |
| PDWcv: | 38.8 | | % | | | |
| PLCR: | 19.38 | | % | | | |
| PLCC: | 41 | | $10^3/\mu L$ | | | |

Warning flags: uADT

Interpretive flags: Neutropenia?, Anemia?, Macrocy

Morphological flags: G

DIFF

BAS

RBC

PLT

Down | Up | OK

Blood | 42 | 10