

**CBC-3D<sup>®</sup>**for MINDRAY  
HEMATOLOGY CONTROLS**CONTROL**

## ASSAY VALUES AND EXPECTED RANGES

**LOT B0523****2023-08-05**

Instrument	Parameter	Low	Normal	High
		<b>LOT B0523L</b>	<b>LOT B0523N</b>	<b>LOT B0523H</b>
<b>Mindray BC-3600</b> CD version 1.8(FDA) or greater	WBC 10 <sup>3</sup> /uL	1.9 ± 0.5	7.7 ± 1.0	20.4 ± 2.5
	RBC 10 <sup>6</sup> /uL	2.32 ± 0.18	4.56 ± 0.24	5.64 ± 0.30
	HGB g/dL	5.9 ± 0.4	13.6 ± 0.6	18.6 ± 0.8
	HCT %	17.7 ± 1.5	39.2 ± 2.0	53.0 ± 2.4
	MCV fL	76.5 ± 5.0	86.0 ± 5.0	94.0 ± 5.0
	MCH pg	25.4 ± 2.5	29.8 ± 2.5	33.0 ± 2.5
	MCHC g/dL	33.2 ± 3.0	34.7 ± 3.0	35.1 ± 3.0
	RDW-CV	15.0 ± 3.0	14.5 ± 3.0	14.0 ± 3.0
	PLT 10 <sup>3</sup> /uL	63 ± 20	263 ± 40	572 ± 60
	MPV fL	7.4 ± 3.0	7.9 ± 3.0	7.8 ± 3.0
	LYM %	59.0 ± 9.0	31.5 ± 8.0	15.0 ± 8.0
	MONO %	10.0 ± 9.0	7.0 ± 6.0	4.5 ± 4.0
	GR %	31.0 ± 9.0	61.5 ± 8.0	80.5 ± 9.0
	LYM x 10 <sup>3</sup> /uL	1.1 ± 0.2	2.4 ± 0.6	3.1 ± 1.7
	MONO x 10 <sup>3</sup> /uL	0.2 ± 0.2	0.5 ± 0.5	0.9 ± 0.8
	GR x 10 <sup>3</sup> /uL	0.6 ± 0.2	4.8 ± 0.7	16.4 ± 1.9
	<b>MINDRAY BC-3200</b>	WBC 10 <sup>3</sup> /uL	2.1 ± 0.5	8.3 ± 1.0
RBC 10 <sup>6</sup> /uL		2.37 ± 0.18	4.54 ± 0.24	5.61 ± 0.30
HGB g/dL		6.1 ± 0.4	13.5 ± 0.6	18.3 ± 0.8
HCT %		18.0 ± 1.5	39.6 ± 2.0	54.0 ± 2.4
MCV fL		76.1 ± 5.0	87.3 ± 5.0	96.2 ± 5.0
MCH pg		25.7 ± 2.5	29.7 ± 2.5	32.6 ± 2.5
MCHC g/dL		33.8 ± 3.0	34.1 ± 3.0	33.9 ± 3.0
*RDW-CV		15.5 ± 3.0	14.3 ± 3.0	13.5 ± 3.0
PLT 10 <sup>3</sup> /uL		74 ± 20	2.61 ± 40	540 ± 60
*MPV fL		8.2 ± 3.0	7.8 ± 3.0	7.6 ± 3.0
LYM %		51.5 ± 12.0	29.5 ± 8.0	15.0 ± 6.0
*MONO %		15.0 ± 10.0	8.5 ± 8.0	7.0 ± 6.0
GR %		33.5 ± 9.0	62.0 ± 8.0	78.0 ± 8.0
LYM x 10 <sup>3</sup> /uL		1.1 ± 0.3	2.4 ± 0.7	3.2 ± 1.3
*MONO x 10 <sup>3</sup> /uL		0.3 ± 0.2	0.7 ± 0.7	1.5 ± 1.3
GR x 10 <sup>3</sup> /uL	0.7 ± 0.2	5.2 ± 0.7	16.5 ± 1.7	

\*For new software version 01.07.00.

For technical assistance in the USA and Canada call Technical Service at (800) 523-3395.

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### INTENDED USE

CBC-3D is a control designed to monitor values on automated and semi-automated impedance type hematology analyzers. It can also be used for manual methods. Please refer to the assay table for specific instrument models.

### SUMMARY AND PRINCIPLE

It is an established laboratory practice to use a stable control to monitor the performance of diagnostic tests. This control is composed of stable materials that provide a means of monitoring the performance of hematology blood cell counters. It is sampled in the same manner as a patient specimen.

### REAGENTS

CBC-3D is an *in vitro* diagnostic reagent composed of human erythrocytes, simulated leukocytes, and mammalian platelets suspended in a plasma-like fluid with preservatives.



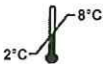
### PRECAUTION

CBC-3D is intended for *in vitro* diagnostic use only by trained personnel.



### WARNING:

**POTENTIAL BIOHAZARDOUS MATERIAL** For *in vitro* diagnostic use. Each human donor/unit used in the preparation of this product has been tested, and yielded non-reactive / negative results for all conditions referenced in 21 CFR 610.40 (a) (b), as required by the FDA. Testing was conducted using FDA-licensed tests. Additional details can be found at: <http://www.mdheme.com/TechnicalInformation.aspx>. No test method can offer complete assurance that infectious agents are absent; therefore this material should be handled as potentially infectious. When handling or disposing of vials follow precautions for patient specimens as specified in the OSHA Bloodborne Pathogen Rule (29 CFR Part 1910, 1030) or other equivalent biosafety procedures.



### STABILITY AND STORAGE

Store CBC-3D upright at 2 - 8° C (35 - 46° F) when not in use. **Protect vials from overheating and freezing.** Unopened vials are stable through the expiration date. Opened vials are stable for 14 days, provided they are handled properly.

### INDICATIONS OF DETERIORATION

After mixing, product should be similar in appearance to fresh whole blood. In unmixed tubes/vials, the supernatant may appear cloudy and reddish; this is normal and does not indicate deterioration. Other discoloration, very dark red supernatant or unacceptable results may indicate deterioration. **Do not use the product if deterioration is suspected.**



### INSTRUCTIONS FOR USE

- Remove tubes/vials from the refrigerator and allow to warm to room temperature (15 to 30°C or 59 to 86°F) for 15 minutes before mixing.
- To mix, hold a tube/vial horizontally between the palms of the hands. **Do not pre-mix on a mechanical mixer.**
  - Roll the tube/vial back and forth for 20 - 30 seconds; occasionally invert the tube/vial. Mix vigorously, but do not shake.
  - Continue to mix in this manner until the red cells are completely suspended. Tubes/vials stored for a long time may require extra mixing.
  - Gently invert the tube/vial 8 - 10 times immediately before sampling.

- Analyze the sample as instructed in the Quality Control section of the Operator's Manual for your instrument.
- After sampling:
  - If tube/vial has been open for sampling, clean residual material from the cap and tube rim with a lint-free tissue. Replace the cap tightly.
  - Return tubes/vials to refrigerator within 30 minutes of use.

### EXPECTED RESULTS

Verify that the lot number on the tube/vial matches the lot number on the table of assay values. Assay values are determined on well-maintained, properly calibrated instruments using the instrument manufacturer's recommended reagents. Reagent differences, maintenance, operating technique, and calibration may contribute to inter-laboratory variation.

### PERFORMANCE CHARACTERISTICS

Assigned values are presented as a Mean and Range. The Mean is derived from replicate testing on instruments operated and maintained according to the manufacturer's instructions. The Range is an estimate of variation between laboratories and also takes into account inherent imprecision of the method and expected biological variability of the control material.

Assay values on a new lot of control should be confirmed before the new lot is put into routine use. Test the new lot when the instrument is in good working order and quality control results on the old lot are acceptable. The laboratory's recovered mean should be within the assay range.

For greater control sensitivity each laboratory should establish its own mean and acceptable range and periodically reevaluate the mean. The laboratory range may include values outside of the assay range. The user may establish assay values not listed on the Assay Sheet, if the control is suitable for the method.

### LIMITATIONS

The performance of this product is assured only if it is properly stored and used as described in this insert. Incomplete mixing of a tube/vial prior to use invalidates both the sample withdrawn and any remaining material in the tube/vial.

### TECHNICAL ASSISTANCE AND CUSTOMER SERVICE

For assistance in resolving control recovery problems, please call Technical Service at (800) 523-3395. For additional information on R&D Systems, Inc. hematology controls and calibrators, or to place an order, call Customer Service at (800) 428-4246.

### QUALITY CONTROL PROGRAM

For information on CBC-Monitor, our Inter-Laboratory Quality Control Program, call (800) 523-3395 ext. 4435.

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