

**CBC-3K****HEMATOLOGY CONTROLS****CONTROL**

ASSAY VALUES AND EXPECTED RANGES

QCP DATA MONTHS: **MARCH, APRIL****LOT** **KK130****2026-05-05**

Instrument	Parameter	Low		Normal		High		+
		LOT	KK130L	LOT	KK130N	LOT	KK130H	
CELL-DYN® Sapphire™	WBC 10 <sup>9</sup> /L		3.05 ± 0.40		7.75 ± 0.80		20.8 ± 2.20	
	NEU 10 <sup>9</sup> /L		1.49 ± 0.61		4.84 ± 1.53		15.2 ± 3.90	
	NEU %		49.0 ± 12.0		62.5 ± 12.0		73.0 ± 10.0	
	LYM 10 <sup>9</sup> /L		1.17 ± 0.57		1.74 ± 1.21		2.70 ± 2.13	
	LYM %		38.5 ± 12.0		22.5 ± 12.0		13.0 ± 8.00	
	MONO 10 <sup>9</sup> /L		0.17 ± 0.17		0.54 ± 0.54		0.94 ± 0.94	
	MONO %		5.50 ± 5.50		7.00 ± 7.00		4.50 ± 4.50	
	EOS 10 <sup>9</sup> /L		0.15 ± 0.15		0.47 ± 0.47		1.66 ± 1.66	
	EOS %		5.00 ± 5.00		6.00 ± 6.00		8.00 ± 8.00	
	BASO 10 <sup>9</sup> /L		0.06 ± 0.06		0.16 ± 0.16		0.31 ± 0.31	
	BASO %		2.00 ± 2.00		2.00 ± 2.00		1.50 ± 1.50	
	RBC 10 <sup>12</sup> /L		2.19 ± 0.18		4.72 ± 0.20		5.15 ± 0.24	
	RBCo 10 <sup>12</sup> /L		2.25 ± 0.18		4.72 ± 0.20		5.06 ± 0.24	
	HGB g/dL		5.80 ± 0.30		13.6 ± 0.50		15.9 ± 0.70	
	HGB g/L		58.0 ± 3.00		136 ± 5.00		159 ± 7.00	
	HGB mmol/L		3.60 ± 0.20		8.43 ± 0.30		9.86 ± 0.50	
	HCT %		16.3 ± 1.80		40.6 ± 2.40		46.6 ± 3.00	
	HCT L/L		0.16 ± 0.02		0.41 ± 0.02		0.47 ± 0.03	
	MCV fL		74.5 ± 5.00		86.0 ± 5.00		90.5 ± 5.00	
	MCH pg		26.5 ± 2.80		28.8 ± 2.00		30.9 ± 2.00	
	MCH fmol		1.64 ± 0.18		1.79 ± 0.16		1.91 ± 0.16	
	MCHC g/dL		35.5 ± 3.60		33.5 ± 2.80		34.1 ± 2.80	
	MCHC g/L		355 ± 36.0		335 ± 28.0		341 ± 28.0	
	MCHC mmol/L		22.0 ± 2.30		20.8 ± 1.80		21.2 ± 1.80	
	RDW %		16.5 ± 3.00		14.5 ± 3.00		13.0 ± 3.00	
	NRBC 10 <sup>9</sup> /L*		.001 ± .001		.001 ± .001		1.95 ± 1.65	
	NRBC/100WBC*		.001 ± .001		.001 ± .001		9.38 ± 7.90	
	PLT 10 <sup>9</sup> /L		68.0 ± 20.0		216 ± 40.0		415 ± 70.0	
	PLTi 10 <sup>9</sup> /L		90.0 ± 20.0		250 ± 40.0		479 ± 70.0	
	MPV fL		8.50 ± 3.00		7.40 ± 3.00		7.20 ± 3.00	
	PCT % **		0.06 ± 0.03		0.17 ± 0.04		0.29 ± 0.08	
PCT mL/L **		0.60 ± 0.30		1.70 ± 0.40		2.90 ± 0.80		
PDW**		16.0 ± 3.00		17.0 ± 2.50		17.0 ± 2.50		
<b>MANUAL / SEMI-AUTOMATED</b>								
Coulter Counter® F, FN, Z series Cyanmethemoglobin (manual) Centrifuged microhematocrit Hemocytometer Plt and WBC count	WBC 10 <sup>9</sup> /L		3.1 ± 0.6		7.7 ± 1.2		23.2 ± 2.6	
	RBC 10 <sup>12</sup> /L		2.09 ± 0.18		4.62 ± 0.22		5.05 ± 0.25	
	HGB g/dL		5.9 ± 0.4		13.9 ± 0.5		16.4 ± 0.8	
	HGB g/L		59 ± 4		139 ± 5		164 ± 8	
	HGB mmol/L		3.7 ± 0.2		8.6 ± 0.3		10.2 ± 0.5	
	Spun HCT %		15.0 ± 2.5		36.0 ± 3.0		42.0 ± 4.0	
	Spun HCT L/L		0.150 ± 0.025		0.360 ± 0.030		0.420 ± 0.040	
	PLT 10 <sup>9</sup> /L		63 ± 20		224 ± 40		435 ± 70	

Before using, refer to the instruction sheet for mixing directions.

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

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

**NOTES:** CBC-3K may yield specimen status alert messages on the Cell-Dyn Sapphire instrument. PIC/POC errors may occur. Verify that the control is performing within assay range.

\* The assay value of .001 and mean range of +/- .001 for NRBC and NRBC/100WBC is entered for the Low level and Normal level controls since the instrument will not accept a value of zero. The NRBC concentration for the Low and Normal levels is below the detectable level of the instrument and such serves as the NRBC negative control.

\*\* Clinical significance has not been established for these parameters. They are provided for laboratory use only.

**R&D Systems, Inc.**  
614 McKinley Place NE  
Minneapolis, MN 55413 USA  
AS029-021 Rev. 04/21

**CBC-3K****HEMATOLOGY CONTROLS****CONTROL**

ASSAY VALUES AND EXPECTED RANGES

QCP DATA MONTHS: **MARCH, APRIL****LOT KK130****2026-05-05**

Instrument	Parameter	Low		Normal		High		++
		LOT	KK130L	LOT	KK130N	LOT	KK130H	
<b>CELL-DYN 3200</b>	WBC (WOC) K/ $\mu$ L		2.9 $\pm$ 0.4		7.4 $\pm$ 1.0		19.7 $\pm$ 2.5	
	WBC (NOC) K/ $\mu$ L		3.1 $\pm$ 0.4		7.7 $\pm$ 1.0		22.3 $\pm$ 2.5	
Software Version 1.8 or higher	NEU K/ $\mu$ L		1.5 $\pm$ 0.5		4.8 $\pm$ 1.5		14.7 $\pm$ 4.1	
	NEU %		50.0 $\pm$ 10.0		64.5 $\pm$ 10.0		74.5 $\pm$ 10.0	
Assay values established in QC file.	LYM K/ $\mu$ L		1.0 $\pm$ 0.6		1.6 $\pm$ 1.2		2.3 $\pm$ 2.3	
	LYM %		36.0 $\pm$ 12.0		21.0 $\pm$ 12.0		11.5 $\pm$ 9.0	
	MONO K/ $\mu$ L		0.2 $\pm$ 0.2		0.5 $\pm$ 0.5		0.7 $\pm$ 0.7	
	MONO %		7.0 $\pm$ 7.0		6.5 $\pm$ 6.5		3.5 $\pm$ 3.5	
	EOS K/ $\mu$ L		0.1 $\pm$ 0.1		0.4 $\pm$ 0.4		1.7 $\pm$ 1.7	
	EOS %		5.0 $\pm$ 5.0		6.0 $\pm$ 6.0		8.5 $\pm$ 8.5	
	BASO K/ $\mu$ L		0.1 $\pm$ 0.1		0.1 $\pm$ 0.1		0.4 $\pm$ 0.4	
	BASO %		2.0 $\pm$ 2.0		2.0 $\pm$ 2.0		2.0 $\pm$ 2.0	
	RBC M/ $\mu$ L		2.13 $\pm$ 0.18		4.70 $\pm$ 0.24		5.17 $\pm$ 0.28	
	HGB g/dL		5.5 $\pm$ 0.4		13.6 $\pm$ 0.6		16.4 $\pm$ 0.8	
	HGB g/L		55 $\pm$ 4		136 $\pm$ 6		164 $\pm$ 8	
	HGB mmol/L		3.4 $\pm$ 0.3		8.4 $\pm$ 0.4		10.2 $\pm$ 0.5	
	HCT %		15.8 $\pm$ 1.8		38.8 $\pm$ 2.5		44.5 $\pm$ 3.5	
	HCT L/L		0.158 $\pm$ 0.018		0.388 $\pm$ 0.025		0.445 $\pm$ 0.035	
	MCV fL		74.0 $\pm$ 5.0		82.5 $\pm$ 5.0		86.0 $\pm$ 5.0	
	MCH pg		25.8 $\pm$ 2.8		28.9 $\pm$ 2.4		31.7 $\pm$ 2.4	
	MCH fmol		1.60 $\pm$ 0.18		1.79 $\pm$ 0.16		1.97 $\pm$ 0.16	
	MCHC g/dL		34.9 $\pm$ 3.6		35.1 $\pm$ 3.0		36.9 $\pm$ 3.0	
	MCHC g/L		349 $\pm$ 36		351 $\pm$ 30		369 $\pm$ 30	
	MCHC mmol/L		21.6 $\pm$ 2.3		21.7 $\pm$ 1.8		22.9 $\pm$ 1.8	
RDW %		13.0 $\pm$ 3.0		11.5 $\pm$ 3.0		10.0 $\pm$ 3.0		
PLT K/ $\mu$ L		74 $\pm$ 22		250 $\pm$ 45		480 $\pm$ 70		
MPV fL		5.9 $\pm$ 3.0		5.3 $\pm$ 3.0		4.8 $\pm$ 3.0		
<b>CELL-DYN Ruby™</b>	WBC (WOC) K/ $\mu$ L		2.9 $\pm$ 0.4		7.4 $\pm$ 1.0		19.7 $\pm$ 2.5	
	WBC (NOC) K/ $\mu$ L		3.1 $\pm$ 0.4		7.7 $\pm$ 1.0		22.3 $\pm$ 2.5	
Assay values established in QC file.	NEU K/ $\mu$ L		1.5 $\pm$ 0.5		4.8 $\pm$ 1.5		14.7 $\pm$ 4.1	
	NEU %		50.0 $\pm$ 10.0		64.5 $\pm$ 10.0		74.5 $\pm$ 10.0	
	LYM K/ $\mu$ L		1.0 $\pm$ 0.6		1.6 $\pm$ 1.2		2.3 $\pm$ 2.3	
	LYM %		36.0 $\pm$ 12.0		21.0 $\pm$ 12.0		11.5 $\pm$ 9.0	
	MONO K/ $\mu$ L		0.2 $\pm$ 0.2		0.5 $\pm$ 0.5		0.7 $\pm$ 0.7	
	MONO %		7.0 $\pm$ 7.0		6.5 $\pm$ 6.5		3.5 $\pm$ 3.5	
	EOS K/ $\mu$ L		0.1 $\pm$ 0.1		0.4 $\pm$ 0.4		1.7 $\pm$ 1.7	
	EOS %		5.0 $\pm$ 5.0		6.0 $\pm$ 6.0		8.5 $\pm$ 8.5	
	BASO K/ $\mu$ L		0.1 $\pm$ 0.1		0.1 $\pm$ 0.1		0.4 $\pm$ 0.4	
	BASO %		2.0 $\pm$ 2.0		2.0 $\pm$ 2.0		2.0 $\pm$ 2.0	
	RBC M/ $\mu$ L		2.13 $\pm$ 0.18		4.70 $\pm$ 0.24		5.17 $\pm$ 0.28	
	HGB g/dL		5.5 $\pm$ 0.4		13.6 $\pm$ 0.6		16.4 $\pm$ 0.8	
	HGB g/L		55 $\pm$ 4		136 $\pm$ 6		164 $\pm$ 8	
	HGB mmol/l		3.4 $\pm$ 0.3		8.4 $\pm$ 0.4		10.2 $\pm$ 0.5	
	HCT %		15.8 $\pm$ 1.8		38.8 $\pm$ 2.5		44.5 $\pm$ 3.5	
	HCT L/L		0.158 $\pm$ 0.018		0.388 $\pm$ 0.025		0.445 $\pm$ 0.035	
	MCV fL		74.0 $\pm$ 5.0		82.5 $\pm$ 5.0		86.0 $\pm$ 5.0	
	MCH pg		25.8 $\pm$ 2.8		28.9 $\pm$ 2.4		31.7 $\pm$ 2.4	
	MCH fmol		1.60 $\pm$ 0.18		1.79 $\pm$ 0.16		1.97 $\pm$ 0.16	
	MCHC g/dL		34.9 $\pm$ 3.6		35.1 $\pm$ 3.0		36.9 $\pm$ 3.0	
MCHC g/L		349 $\pm$ 36		351 $\pm$ 30		369 $\pm$ 30		
MCHC mmol/L		21.6 $\pm$ 2.3		21.7 $\pm$ 1.8		22.9 $\pm$ 1.8		
RDW %		13.0 $\pm$ 3.0		11.5 $\pm$ 3.0		10.0 $\pm$ 3.0		
PLT K/ $\mu$ L		74 $\pm$ 22		250 $\pm$ 45		480 $\pm$ 70		
MPV fL		5.9 $\pm$ 3.0		5.3 $\pm$ 3.0		4.8 $\pm$ 3.0		

Before using, refer to the instruction sheet for mixing directions.

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

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

NOTES: CBC-3K may yield specimen status alert messages on the Cell-Dyn 3200 and Ruby instruments.

Occasionally leukocyte cell populations are incorrectly identified. If this occurs, please rerun the sample.

Neut/Eos flips may occur after Reticulocyte analysis. Please prime analyzer with whole blood to avoid.

**R&D Systems, Inc.**  
614 McKinley Place NE  
Minneapolis, MN 55413 USA  
AS029-021 Rev. 04/21