

## EQA round: KO3/26 - Blood Count

Deadline: 15.5.2026

Setup: groups - S (measuring system); minimal size of the groups n = 5

RoM = robust average	AV = assigned value	D <sub>max</sub> = acceptable difference
SD = standard deviation	CVP = consensus of all participants	LL = lower limit
CV = coefficient of variation	CVPG = consensus of the participants' groups	UL = upper limit
N <sub>tot</sub> = total number of the results	U <sub>AV</sub> = expanded uncertainty of the assigned value (k = 2)	N <sub>eva</sub> = number of the results assessed
N <sub>out</sub> = number of the results removed before calculation		N <sub>suc</sub> = number of successful results
		S <sub>rel</sub> = relative success

Test Sample Group	[unit]	RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	Comparability					N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub> [%]	
							AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL				
<b>(150) WBC</b>	[·10 <sup>9</sup> /L]				214							214	212	99	
<b>Sample A</b>		4,93	0,17	3,4	214		CVP	4,93	0,028	15%	4,19	5,67	214	214	100
(741) Nihon Kohden Celltac Alfa		4,75	0,074	1,6	6	0							6		
(755) Sysmex KX, XP, XQ series		4,8	0	0	5	0							5		
(771) MINDRAY BC 6xxx, 7xx series		4,93	0,17	3,5	34	0							34		
(772) Sysmex XN, XR series		4,98	0,12	2,4	134	0							134		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		4,59	0,13	2,8	9	0							9		
(999) another system		4,93	0,16	3,3	6	0							6		
Other					20	0							20		
								4x 702, 1x 706, 2x 718, 1x 737, 1x 749, 1x 763, 3x 765, 4x 766, 3x 768							
<b>Sample B</b>		4,93	0,17	3,5	214		CVP	4,93	0,029	15%	4,19	5,67	214	212	99
(741) Nihon Kohden Celltac Alfa		4,6	0,15	3,2	6	0							6		
(755) Sysmex KX, XP, XQ series		4,87	0,1	2,1	5	0							5		
(771) MINDRAY BC 6xxx, 7xx series		4,9	0,16	3,2	34	0							34		
(772) Sysmex XN, XR series		4,99	0,12	2,3	134	0							134		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		4,55	0,22	4,9	9	0							9		
(999) another system		5,01	0,34	6,8	6	0							6		
Other					20	0							20		
								4x 702, 1x 706, 2x 718, 1x 737, 1x 749, 1x 763, 3x 765, 4x 766, 3x 768							
<b>(151) RBC</b>	[·10 <sup>12</sup> /L]				214							214	214	100	
<b>Sample A</b>		5,12	0,08	1,6	214		CVP	5,12	0,013	7%	4,76	5,48	214	214	100
(741) Nihon Kohden Celltac Alfa		5,17	0,12	2,3	6	0							6		
(755) Sysmex KX, XP, XQ series		5,12	0,022	0,43	5	0							5		
(771) MINDRAY BC 6xxx, 7xx series		5,13	0,093	1,8	34	0							34		
(772) Sysmex XN, XR series		5,12	0,069	1,3	134	0							134		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		5,08	0,082	1,6	9	0							9		
(999) another system		5,07	0,12	2,3	6	0							6		
Other					20	0							20		
								4x 702, 1x 706, 2x 718, 1x 737, 1x 749, 1x 763, 3x 765, 4x 766, 3x 768							
<b>Sample B</b>		3,53	0,06	1,7	214		CVP	3,53	0,01	7%	3,28	3,78	214	214	100
(741) Nihon Kohden Celltac Alfa		3,58	0,12	3,3	6	0							6		
(755) Sysmex KX, XP, XQ series		3,55	0,022	0,63	5	0							5		
(771) MINDRAY BC 6xxx, 7xx series		3,55	0,062	1,7	34	0							34		
(772) Sysmex XN, XR series		3,52	0,05	1,4	134	0							134		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		3,52	0,059	1,7	9	0							9		
(999) another system		3,5	0,1	3	6	0							6		
Other					20	0							20		
								4x 702, 1x 706, 2x 718, 1x 737, 1x 749, 1x 763, 3x 765, 4x 766, 3x 768							
<b>(152) Haemoglobin</b>	[g/L]				215							215	215	100	
<b>Sample A</b>		150	1,8	1,2	215		CVP	150	0,3	6%	141	159	215	215	100
(741) Nihon Kohden Celltac Alfa		151	1,1	0,74	6	0							6		
(755) Sysmex KX, XP, XQ series		151	2,2	1,5	5	0							5		
(771) MINDRAY BC 6xxx, 7xx series		150	1,6	1,1	34	0							34		
(772) Sysmex XN, XR series		150	1,6	1	134	0							134		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		149	2,2	1,5	9	0							9		
(999) another system		149	4,1	2,7	7	0							7		
Other					20	0							20		
								4x 702, 1x 706, 2x 718, 1x 737, 1x 749, 1x 763, 3x 765, 4x 766, 3x 768							
<b>Sample B</b>		107	1,3	1,3	215		CVP	107	0,22	6%	100	114	215	215	100
(741) Nihon Kohden Celltac Alfa		106	2,6	2,4	6	0							6		
(755) Sysmex KX, XP, XQ series		107	1,5	1,4	5	0							5		
(771) MINDRAY BC 6xxx, 7xx series		107	1,5	1,4	34	0							34		
(772) Sysmex XN, XR series		106	1,1	1,1	134	0							134		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		108	0,89	0,83	9	0							9		
(999) another system		106	0,59	0,56	7	0							7		
Other					20	0							20		
								4x 702, 1x 706, 2x 718, 1x 737, 1x 749, 1x 763, 3x 765, 4x 766, 3x 768							

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Setup: groups - S (measuring system); minimal size of the groups n = 5

Test Sample Group	[unit]	RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	Comparability					N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub> [%]	
							AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL				
<b>(153) HCT</b>	[-]				214							214	212	99	
<b>Sample A</b>		0,47	0,012	2,6	214		CVP	0,47	0,002	10%	0,423	0,517	214	214	100
(741) Nihon Kohden Celltac Alfa		0,462	0,039	8,5	6	0							6		
(755) Sysmex KX, XP, XQ series		0,47	0,004	0,94	5	0							5		
(771) MINDRAY BC 6xxx, 7xx series		0,46	0,011	2,3	34	0							34		
(772) Sysmex XN, XR series		0,475	0,01	2	134	0							134		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		0,457	0,006	1,3	9	0							9		
(999) another system		0,461	0,01	2,3	6	0							6		
Other					20	0							20		
															4x 702, 1x 706, 2x 718, 1x 737, 1x 749, 1x 763, 3x 765, 4x 766, 3x 768
<b>Sample B</b>		0,341	0,01	2,8	214		CVP	0,341	0,002	10%	0,306	0,376	214	212	99
(741) Nihon Kohden Celltac Alfa		0,319	0,019	6,1	6	0							6		
(755) Sysmex KX, XP, XQ series		0,342	0,004	1,3	5	0							5		
(771) MINDRAY BC 6xxx, 7xx series		0,329	0,008	2,3	34	0							34		
(772) Sysmex XN, XR series		0,345	0,006	1,8	134	0							134		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		0,333	0,004	1,3	9	0							9		
(999) another system		0,327	0,009	2,7	6	0							6		
Other					20	0							20		
															4x 702, 1x 706, 2x 718, 1x 737, 1x 749, 1x 763, 3x 765, 4x 766, 3x 768
<b>(154) MCV</b>	[fL]				214								214	213	100
<b>Sample A</b>		91,8	2	2,2	214		CVP	91,8	0,34	10%	82,6	101	214	213	100
(741) Nihon Kohden Celltac Alfa		87,8	3,5	4	6	0							6		
(755) Sysmex KX, XP, XQ series		91,2	0,59	0,65	5	0							5		
(771) MINDRAY BC 6xxx, 7xx series		89,6	1,9	2,1	34	0							34		
(772) Sysmex XN, XR series		92,8	1,3	1,4	134	0							134		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		90,2	1,3	1,4	9	0							9		
(999) another system		90,3	0,74	0,82	6	0							6		
Other					20	0							20		
															4x 702, 1x 706, 2x 718, 1x 737, 1x 749, 1x 763, 3x 765, 4x 766, 3x 768
<b>Sample B</b>		96,5	2,9	3	214		CVP	96,5	0,49	10%	86,8	107	214	213	100
(741) Nihon Kohden Celltac Alfa		88,3	2,1	2,4	6	0							6		
(755) Sysmex KX, XP, XQ series		96,4	0,82	0,85	5	0							5		
(771) MINDRAY BC 6xxx, 7xx series		92,7	1,9	2	34	0							34		
(772) Sysmex XN, XR series		98,1	1,3	1,3	134	0							134		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		94,2	0,83	0,88	9	0							9		
(999) another system		92,5	1,9	2,1	6	0							6		
Other					20	0							20		
															4x 702, 1x 706, 2x 718, 1x 737, 1x 749, 1x 763, 3x 765, 4x 766, 3x 768
<b>(156) RDW</b>	[%]				203								196	196	100
<b>Sample A</b>		14,7	0,38	2,6	203								196	196	100
(12) Beckman Coulter; (773) Beckman Coulter DxH 600/800/900, HMX series, LH series		15,9	0,22	1,4	9	0	CVPG	15,8	0,29	10%	14,2	17,4	9		
(63) Sysmex; (772) Sysmex XN, XR series		14,6	0,19	1,3	132	0	CVPG	14,6	0,04	10%	13,1	16,1	132		
(157) Nihon Kohden; (741) Nihon Kohden Celltac Alfa		13	1,1	8,6	6	0	CVPG	13	1,6	10%	11,7	14,3	6		
(177) Mindray; (771) MINDRAY BC 6xxx, 7xx series		15,1	0,27	1,8	32	0	CVPG	15,1	0,13	10%	13,5	16,7	32		
Other					24	0							17		
															2x 1/702, 1x 1/763, 2x 1/765, 2x 12/718, 4x 46/999, 1x 63/749, 4x 63/755, 2x 177/766, 2x 177/768, 1x 177/999, 1x 179/737, 1x 205/706, 1x 999/999
<b>Sample B</b>		14,9	0,28	1,9	203								196	196	100
(12) Beckman Coulter; (773) Beckman Coulter DxH 600/800/900, HMX series, LH series		16,2	0,22	1,4	9	0	CVPG	16,1	0,23	10%	14,4	17,8	9		
(63) Sysmex; (772) Sysmex XN, XR series		15	0,16	1,1	132	0	CVPG	15	0,036	10%	13,5	16,5	132		
(157) Nihon Kohden; (741) Nihon Kohden Celltac Alfa		12,6	0,93	7,4	6	0	CVPG	12,6	1,3	10%	11,3	13,9	6		
(177) Mindray; (771) MINDRAY BC 6xxx, 7xx series		14,8	0,38	2,6	32	0	CVPG	14,8	0,17	10%	13,3	16,3	32		
Other					24	0							17		
															2x 1/702, 1x 1/763, 2x 1/765, 2x 12/718, 4x 46/999, 1x 63/749, 4x 63/755, 2x 177/766, 2x 177/768, 1x 177/999, 1x 179/737, 1x 205/706, 1x 999/999
<b>(155) Platelets</b>	[·10 <sup>9</sup> /L]				214								214	210	98
<b>Sample A</b>		189	9,5	5	214		CVP	189	1,6	18%	154	224	214	212	99
(741) Nihon Kohden Celltac Alfa		185	30	16	6	0							6		
(755) Sysmex KX, XP, XQ series		184	5,2	2,8	5	0							5		
(771) MINDRAY BC 6xxx, 7xx series		187	12	6,5	34	0							34		
(772) Sysmex XN, XR series		192	7,1	3,7	134	0							134		



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Test Sample Group	[unit]	RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	Comparability						N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub> [%]
							AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL				
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		2,66	0,24	9,1	9	0	CVP	2,76	0,02	25%	2,07	3,45	9		
(999) another system		2,77	0,052	1,9	5	0	CVP	2,76	0,02	25%	2,07	3,45	5		
Other					10	0							8		
														1x 702, 2x 718, 1x 737, 1x 749, 1x 763, 2x 765, 1x 766, 1x 768	
<b>Sample B</b>		3,3	0,12	3,6	182								180	180	100
(771) MINDRAY BC 6xxx, 7xx series		3,36	0,12	3,6	32	0	CVP	3,3	0,021	25%	2,47	4,13	32		
(772) Sysmex XN, XR series		3,3	0,095	2,9	126	0	CVP	3,3	0,021	25%	2,47	4,13	126		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		3,15	0,22	7,1	9	0	CVP	3,3	0,021	25%	2,47	4,13	9		
(999) another system		3,33	0,19	5,6	5	0	CVP	3,3	0,021	25%	2,47	4,13	5		
Other					10	0							8		
														1x 702, 2x 718, 1x 737, 1x 749, 1x 763, 2x 765, 1x 766, 1x 768	
<b>(161) Lymphocytes</b>	[·10 <sup>9</sup> /L]				183								181	179	99
<b>Sample A</b>		1,62	0,059	3,6	183								181	179	99
(771) MINDRAY BC 6xxx, 7xx series		1,58	0,068	4,3	32	0	CVP	1,62	0,01	25%	1,21	2,03	32		
(772) Sysmex XN, XR series		1,63	0,045	2,8	126	0	CVP	1,62	0,01	25%	1,21	2,03	126		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		1,45	0,073	5	9	0	CVP	1,62	0,01	25%	1,21	2,03	9		
(999) another system		1,67	0,1	6,2	5	0	CVP	1,62	0,01	25%	1,21	2,03	5		
Other					11	0							9		
														1x 702, 2x 718, 1x 737, 1x 749, 1x 763, 2x 765, 2x 766, 1x 768	
<b>Sample B</b>		1,1	0,048	4,3	183								181	181	100
(771) MINDRAY BC 6xxx, 7xx series		1,09	0,038	3,4	32	0	CVP	1,1	0,009	25%	0,825	1,38	32		
(772) Sysmex XN, XR series		1,11	0,042	3,8	126	0	CVP	1,1	0,009	25%	0,825	1,38	126		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		0,954	0,068	7,1	9	0	CVP	1,1	0,009	25%	0,825	1,38	9		
(999) another system		1,14	0,052	4,6	5	0	CVP	1,1	0,009	25%	0,825	1,38	5		
Other					11	0							9		
														1x 702, 2x 718, 1x 737, 1x 749, 1x 763, 2x 765, 2x 766, 1x 768	
<b>(162) Monocytes</b>	[·10 <sup>9</sup> /L]				181								181	180	99
<b>Sample A</b>		0,338	0,05	15	181		CVP	0,338	0,009	50%	0,169	0,507	181	180	99
(771) MINDRAY BC 6xxx, 7xx series		0,267	0,028	10	32	0							32		
(772) Sysmex XN, XR series		0,362	0,028	7,7	126	0							126		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		0,28	0,03	11	9	0							9		
(999) another system		0,295	0,022	7,5	5	0							5		
Other					9	0							9		
														1x 702, 2x 718, 1x 737, 1x 749, 1x 763, 2x 765, 1x 768	
<b>Sample B</b>		0,352	0,054	15	181		CVP	0,352	0,01	50%	0,176	0,528	181	181	100
(771) MINDRAY BC 6xxx, 7xx series		0,283	0,021	7,3	32	0							32		
(772) Sysmex XN, XR series		0,379	0,027	7,2	126	0							126		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		0,281	0,029	10	9	0							9		
(999) another system		0,31	0,03	9,6	5	0							5		
Other					9	0							9		
														1x 702, 2x 718, 1x 737, 1x 749, 1x 763, 2x 765, 1x 768	
<b>(163) Eosinophils</b>	[·10 <sup>9</sup> /L]				181								181	181	100
<b>Sample A</b>		0,194	0,017	8,7	181		CVP	0,194	0,003	50%	0,097	0,291	181	181	100
(771) MINDRAY BC 6xxx, 7xx series		0,203	0,017	8,6	32	0							32		
(772) Sysmex XN, XR series		0,192	0,016	8,1	126	0							126		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		0,19	0,015	7,8	9	0							9		
(999) another system		0,185	0,022	12	5	0							5		
Other					9	0							9		
														1x 702, 2x 718, 1x 737, 1x 749, 1x 763, 2x 765, 1x 768	
<b>Sample B</b>		0,138	0,016	12	181		CVP	0,138	0,003	50%	0,069	0,207	181	181	100
(771) MINDRAY BC 6xxx, 7xx series		0,141	0,013	9,1	32	0							32		
(772) Sysmex XN, XR series		0,138	0,016	11	126	0							126		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		0,111	0,016	14	9	0							9		
(999) another system		0,14	0,015	11	5	0							5		
Other					9	0							9		
														1x 702, 2x 718, 1x 737, 1x 749, 1x 763, 2x 765, 1x 768	
<b>(164) Basophils</b>	[·10 <sup>9</sup> /L]				181								181	179	99
<b>Sample A</b>		0,039	0,016	40	181		CVP	0,039	0,003	asym.	0	0,148	181	179	99
(771) MINDRAY BC 6xxx, 7xx series		0,033	0,018	53	32	0							32		
(772) Sysmex XN, XR series		0,042	0,013	31	126	0							126		

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							AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL				
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		0,021	0,03	150	9	0							9		
(999) another system		0,02	0,015	74	5	0							5		
Other					9	0							9		
							1x 702, 2x 718, 1x 737, 1x 749, 1x 763, 2x 765, 1x 768								
<b>Sample B</b>		0,055	0,019	34	181		CVP	0,055	0,003	asym.	0	0,148	181	181	100
(771) MINDRAY BC 6xxx, 7xx series		0,032	0,014	45	32	0							32		
(772) Sysmex XN, XR series		0,061	0,013	21	126	0							126		
(773) Beckman Coulter DxH 600/800/900, HMX series, LH series		0,076	0,036	47	9	0							9		
(999) another system		0,035	0,022	63	5	0							5		
Other					9	0							9		
							1x 702, 2x 718, 1x 737, 1x 749, 1x 763, 2x 765, 1x 768								