

EQA round: IFT1/25 - Immunophenotypisation

Deadline: 7.4.2025

Setup: groups - R (manufacturer of kit); Slovakia; minimal size of the groups n = 5

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

Test Sample Group	[unit]	RoM	SD	CV [%]	N _{tot}	N _{out}	Comparability					N _{eva}	N _{suc}	S _{rel} [%]	
							AV	U _{AV}	D _{max}	LL	UL				
(253) T lymphocytes (CD3+)	[%]				32							32	27	84	
Sample A		79,4	1,9	2,4	32		CVP	80,2	0,42	7%	74,5	85,9	32	29	91
(12) Beckman Coulter		79,2	1,9	2,4	22	0							22		
(88) Becton Dickinson		78,2	1,8	2,3	5	0							5		
Other					5	0							5		
							3x 36, 1x 177, 1x 999						5		
Sample B		55,6	1,6	2,9	32		CVP	55,9	0,38	7%	51,9	59,9	32	30	94
(12) Beckman Coulter		55,6	1,6	2,8	22	0							22		
(88) Becton Dickinson		55,3	2	3,5	5	0							5		
Other					5	0							5		
							3x 36, 1x 177, 1x 999						5		
(254) Th lymphocytes (CD4+)	[%]				32							32	26	81	
Sample A		50,3	2	3,9	32		CVP	51,2	0,43	10%	46	56,4	32	29	91
(12) Beckman Coulter		50	1,9	3,8	22	0							22		
(88) Becton Dickinson		49,7	2,5	5,1	5	0							5		
Other					5	0							5		
							3x 36, 1x 177, 1x 999						5		
Sample B		26,8	1,5	5,7	32		CVP	27,3	0,34	10%	24,5	30,1	32	27	84
(12) Beckman Coulter		26,6	1,5	5,7	22	0							22		
(88) Becton Dickinson		26,6	2,3	8,7	5	0							5		
Other					5	0							5		
							3x 36, 1x 177, 1x 999						5		
(255) T lymphocytes (CD8+)	[%]				32							32	28	88	
Sample A		23,9	1,5	6,2	32		CVP	24	0,25	17%	19,9	28,1	32	30	94
(12) Beckman Coulter		23,8	1,4	6	22	0							22		
(88) Becton Dickinson		24,3	0,45	1,9	5	0							5		
Other					5	0							5		
							3x 36, 1x 177, 1x 999						5		
Sample B		26,4	2,5	9,3	32		CVP	27	0,51	17%	22,4	31,6	32	29	91
(12) Beckman Coulter		26,3	2,3	8,6	22	0							22		
(88) Becton Dickinson		27,3	1,6	6	5	0							5		
Other					5	0							5		
							3x 36, 1x 177, 1x 999						5		
(256) B lymphocytes	[%]				32							32	31	97	
Sample A		10,1	0,73	7,2	32		CVP	9,9	0,16	30%	6,93	12,9	32	31	97
(12) Beckman Coulter		10,3	0,77	7,4	22	0							22		
(88) Becton Dickinson		10,2	0,13	1,3	5	0							5		
Other					5	0							5		
							3x 36, 1x 177, 1x 999						5		
Sample B		7,74	0,62	8	32		CVP	7,88	0,15	30%	5,51	10,3	32	32	100
(12) Beckman Coulter		7,75	0,76	9,8	22	0							22		
(88) Becton Dickinson		7,89	0,31	3,9	5	0							5		
Other					5	0							5		
							3x 36, 1x 177, 1x 999						5		
(257) NK cells	[%]				32							32	25	78	
Sample A		9,34	1,5	16	32		CVP	8,69	0,26	26%	6,43	11	32	25	78
(12) Beckman Coulter		9,59	1,6	17	22	0							22		
(88) Becton Dickinson		9,28	1,1	12	5	0							5		
Other					5	0							5		
							3x 36, 1x 177, 1x 999						5		
Sample B		35,2	1,5	4,2	32		CVP	34,5	0,37	26%	25,5	43,5	32	32	100
(12) Beckman Coulter		35,5	1,6	4,6	22	0							22		
(88) Becton Dickinson		34,6	0,059	0,17	5	0							5		
Other					5	0							5		
							3x 36, 1x 177, 1x 999						5		
(630) WBC	[·10 ⁹ /L]				23							23	21	91	
Sample A		2,63	0,093	3,5	23		CVP	2,69	0,032	10%	2,42	2,96	23	22	96
(63) Sysmex		2,67	0,07	2,6	11	0							11		
(177) Mindray		2,61	0,089	3,4	8	0							8		
Other					4	0							4		
							2x 12, 1x 176, 1x 179						4		
Sample B		1,29	0,072	5,6	23		CVP	1,31	0,021	10%	1,17	1,45	23	21	91
(63) Sysmex		1,32	0,039	3	11	0							11		
(177) Mindray		1,3	0,14	11	8	0							8		

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Test Sample Group	[unit]	RoM	SD	CV [%]	N _{tot}	N _{out}	Comparability					N _{eva}	N _{suc}	S _{rel} [%]	
							AV	U _{AV}	D _{max}	LL	UL				
Other					4	0	2x 12, 1x 176, 1x 179					4			
(631) Lymphocytes	[·10 ⁹ /L]				23							23	21	91	
Sample A		0,67	0,11	16	23		CVP	0,736	0,037	25%	0,552	0,92	23	21	91
(63) Sysmex		0,765	0,066	8,6	10	0							10		
(177) Mindray		0,595	0,067	11	8	0							8		
Other					5	0							5		
							2x 12, 1x 36, 1x 176, 1x 179								
Sample B		0,469	0,054	11	23		CVP	0,498	0,021	25%	0,373	0,623	23	23	100
(63) Sysmex		0,502	0,05	10	10	0							10		
(177) Mindray		0,46	0,074	16	8	0							8		
Other					5	0							5		
							2x 12, 1x 36, 1x 176, 1x 179								
(632) T lymphocytes (CD3+) (abs. count)	[·10 ⁹ /L]				23							23	23	100	
Sample A		0,527	0,083	16	23		CVP	0,586	0,032	38%	0,363	0,809	23	23	100
(12) Beckman Coulter		0,546	0,096	18	12	0							12		
Other					11	0							11		
							1x 0, 2x 36, 3x 63, 1x 88, 3x 177, 1x 999								
Sample B		0,261	0,032	12	23		CVP	0,278	0,013	32%	0,189	0,367	23	23	100
(12) Beckman Coulter		0,257	0,041	16	12	0							12		
Other					11	0							11		
							1x 0, 2x 36, 3x 63, 1x 88, 3x 177, 1x 999								
(633) Th lymphocytes (CD4+) (abs. count)	[·10 ⁹ /L]				23							23	21	91	
Sample A		0,333	0,054	16	23		CVP	0,375	0,021	38%	0,232	0,518	23	22	96
(12) Beckman Coulter		0,344	0,061	18	12	0							12		
Other					11	0							11		
							1x 0, 2x 36, 3x 63, 1x 88, 3x 177, 1x 999								
Sample B		0,127	0,017	13	23		CVP	0,136	0,007	36%	0,087	0,185	23	21	91
(12) Beckman Coulter		0,123	0,018	14	12	0							12		
Other					11	0							11		
							1x 0, 2x 36, 3x 63, 1x 88, 3x 177, 1x 999								
(634) T lymphocytes (CD8+) (abs. count)	[·10 ⁹ /L]				23							23	22	96	
Sample A		0,156	0,025	16	23		CVP	0,174	0,01	38%	0,107	0,241	23	22	96
(12) Beckman Coulter		0,162	0,026	16	12	0							12		
Other					11	0							11		
							1x 0, 2x 36, 3x 63, 1x 88, 3x 177, 1x 999								
Sample B		0,122	0,021	18	23		CVP	0,134	0,007	36%	0,085	0,183	23	23	100
(12) Beckman Coulter		0,12	0,018	15	12	0							12		
Other					11	0							11		
							1x 0, 2x 36, 3x 63, 1x 88, 3x 177, 1x 999								
(635) B lymphocytes (abs. count)	[·10 ⁹ /L]				23							23	22	96	
Sample A		0,065	0,01	15	23		CVP	0,073	0,004	40%	0,043	0,103	23	22	96
(12) Beckman Coulter		0,07	0,016	23	12	0							12		
Other					11	0							11		
							1x 0, 2x 36, 3x 63, 1x 88, 3x 177, 1x 999								
Sample B		0,035	0,007	19	23		CVP	0,038	0,002	40%	0,022	0,054	23	22	96
(12) Beckman Coulter		0,036	0,008	21	12	0							12		
Other					11	0							11		
							1x 0, 2x 36, 3x 63, 1x 88, 3x 177, 1x 999								
(636) NK cells (abs. count)	[·10 ⁹ /L]				23							23	20	87	
Sample A		0,061	0,012	19	23		CVP	0,064	0,004	42%	0,037	0,091	23	20	87
(12) Beckman Coulter		0,069	0,024	35	11	0							11		
Other					12	0							12		
							1x 0, 1x 9, 2x 36, 3x 63, 1x 88, 3x 177, 1x 999								
Sample B		0,169	0,023	13	23		CVP	0,174	0,009	32%	0,118	0,23	23	22	96
(12) Beckman Coulter		0,17	0,039	23	11	0							11		
Other					12	0							12		
							1x 0, 1x 9, 2x 36, 3x 63, 1x 88, 3x 177, 1x 999								