

EQA round: TM1/24 - Tumour Markers

Deadline: 6.2.2024

Setup: groups - M (measurement principle), 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	CVPG = consensus of the participants' groups	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			
(208) β-2-microglobulin	[mg/L]				14							13	13	100
Sample A		1,36	0,13	9,7	14							13	13	100
(6) IMT, IMN; (58) Beckman Coulter (AU)		1,25	0,015	1,2	5	0	CVPG	1,27	0,059	21%	1	1,54	5	
Other					9	0							8	
								1x 4/29, 1x 6/1, 3x 6/60, 1x 6/149, 1x 6/162, 1x 6/177, 1x 6/179						
Sample B		1,32	0,13	9,8	14							13	13	100
(6) IMT, IMN; (58) Beckman Coulter (AU)		1,21	0,015	1,2	5	0	CVPG	1,22	0,02	21%	0,963	1,48	5	
Other					9	0							8	
								1x 4/29, 1x 6/1, 3x 6/60, 1x 6/149, 1x 6/162, 1x 6/177, 1x 6/179						
(185) AFP	[µg/L]				15							15	13	87
Sample A		21,4	2,9	14	15							15	14	93
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		22	3,3	15	6	0	CVPG	22,3	0,21	20%	17,8	26,8	6	
Other					9	0							9	
								3x 4/1, 4x 4/12, 1x 4/162, 1x 4/179						
Sample B		9,87	1	10	15							15	14	93
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		9,73	0,99	10	6	0	CVPG	9,98	0,092	±2	7,98	12	6	
Other					9	0							9	
								3x 4/1, 4x 4/12, 1x 4/162, 1x 4/179						
(181) CA 15-3	[kU/L]				15							15	13	87
Sample A		12,3	1,5	12	15							15	14	93
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		13,5	1,5	11	6	0	CVPG	13,2	0,13	18%	10,8	15,6	6	
Other					9	0							9	
								4x 4/1, 3x 4/12, 1x 4/162, 1x 4/179						
Sample B		12,3	1,8	15	15							15	14	93
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		12,9	1,6	12	6	0	CVPG	13,5	0,12	18%	11	16	6	
Other					9	0							9	
								4x 4/1, 3x 4/12, 1x 4/162, 1x 4/179						
(182) CA 19-9	[kU/L]				16							16	14	88
Sample A		109	65	60	16							16	15	94
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		93,6	3,6	3,8	5	0	CVPG	91,3	2,7	20%	73	110	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		57,7	6,9	12	6	0	CVPG	55	0,38	20%	44	66	6	
Other					5	0							5	
								3x 4/1, 1x 4/162, 1x 4/179						
Sample B		6,52	1,4	21	16							16	15	94
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		5,15	0,22	4,3	5	0	CVPG	5,39	0,19	±2,8	2,59	8,19	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		6,79	0,76	11	6	0	CVPG	7,13	0,093	±2,8	4,33	9,93	6	
Other					5	0							5	
								3x 4/1, 1x 4/162, 1x 4/179						
(183) CA 72-4	[kU/L]				13							13	12	92
Sample A												13	12	92
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		1,89	0,2	11	13	0	CVPG	2,03	0,026	22%	1,58	2,48	13	
Sample B												13	13	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		23,8	2,1	8,6	13	0	CVPG	25,2	0,27	22%	19,6	30,8	13	
(180) CA 125	[kU/L]				16							16	16	100
Sample A		25,6	4,7	18	16							16	16	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		30,3	1,1	3,7	6	0	CVPG	29,2	0,47	20%	23,3	35,1	6	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		24,1	1,6	6,6	6	0	CVPG	23	0,22	20%	18,4	27,6	6	
Other					4	0							4	
								2x 4/12, 1x 4/162, 1x 4/179						
Sample B		40	7,2	18	16							16	16	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		46,6	3,5	7,5	6	0	CVPG	47,9	0,72	20%	38,3	57,5	6	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		36,8	1,1	3	6	0	CVPG	36,1	0,33	20%	28,8	43,4	6	
Other					4	0							4	
								2x 4/12, 1x 4/162, 1x 4/179						
(189) CEA	[µg/L]				17							17	17	100
Sample A		25	4,8	19	17							17	17	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		21	0,63	3	5	0	CVPG	20,9	0,43	16%	17,5	24,3	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		26,8	1,4	5,3	7	0	CVPG	26,4	0,14	16%	22,1	30,7	7	
Other					5	0							5	
								3x 4/1, 1x 4/162, 1x 4/179						
Sample B		50,9	5	9,9	17							17	17	100

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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				
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		48	0,93	1,9	5	0	CVPG	46,3	1,1	16%	38,8	53,8	5		
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		51,2	2,9	5,6	7	0	CVPG	52,6	0,27	16%	44,1	61,1	7		
Other					5	0							5		
							3x 4/1, 1x 4/162, 1x 4/179								
(184) CYFRA 21-1	[µg/L]				14								14	13	93
Sample A		2,9	0,48	17	14								14	14	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		3,13	0,22	6,9	10	0	CVPG	2,98	0,039	18%	2,44	3,52	10		
Other					4	0							4		
							4x 4/1								
Sample B		1	0,3	30	14								14	13	93
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		1,15	0,14	12	10	0	CVPG	1,07	0,026 ±0,234	0,836	1,31		10		
Other					4	0							4		
							4x 4/1								
(186) hCG	[U/L]				17								17	17	100
Sample A		437	24	5,5	17								17	17	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		448	7,5	1,7	6	0	CVPG	449	8,3	18%	368	530	6		
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		432	23	5,4	6	0	CVPG	420	2,4	18%	344	496	6		
Other					5	0							5		
							1x 4/162, 1x 4/179, 3x 4/210								
Sample B		93	14	15	17								17	17	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		84,7	5,2	6,2	6	0	CVPG	84,4	1,4	18%	69,2	99,6	6		
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		106	7,8	7,3	6	0	CVPG	109	0,61	18%	89,3	129	6		
Other					5	0							5		
							1x 4/162, 1x 4/179, 3x 4/210								
(206) Calcitonin	[ng/L]				3								3	3	100
Sample A					3								3	3	100
Other					3	0							3		
							1x 4/29, 2x 4/60								
Sample B					3								3	3	100
Other					3	0							3		
							1x 4/29, 2x 4/60								
(194) NSE	[µg/L]				15								15	15	100
Sample A		18,9	1,4	7,5	15								15	15	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		18,9	1,1	5,7	13	0	CVPG	19,1	0,2	30%	13,3	24,9	13		
Other					2	0							2		
							1x 3/24, 1x 4/1								
Sample B		102	8,8	8,6	15								15	15	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		103	8,3	8,1	13	0	CVPG	103	1,6	30%	72,1	134	13		
Other					2	0							2		
							1x 3/24, 1x 4/1								
(187) p2PSA	[ng/L]				1								1	1	100
Sample A					1								1	1	100
Other					1	0							1		
							1x 4/12								
Sample B					1								1	1	100
Other					1	0							1		
							1x 4/12								
(191) PSA	[µg/L]				15								15	14	93
Sample A		1,47	0,18	12	15								15	14	93
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		1,57	0,13	8,5	6	0	CVPG	1,56	0,01	15%	1,32	1,8	6		
Other					9	0							9		
							2x 4/1, 3x 4/12, 1x 4/162, 1x 4/179, 2x 4/195								
Sample B		1,02	0,091	8,9	15								15	14	93
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		1,06	0,052	4,9	6	0	CVPG	1,07	0,007	15%	0,909	1,24	6		
Other					9	0							9		
							2x 4/1, 3x 4/12, 1x 4/162, 1x 4/179, 2x 4/195								
(198) free-PSA	[µg/L]				10								10	9	90
Sample A					10								10	9	90
Other					10	0							10		
							2x 4/1, 1x 4/12, 4x 4/60, 1x 4/179, 2x 4/195								
Sample B					10								10	9	90
Other					10	0							10		
							2x 4/1, 1x 4/12, 4x 4/60, 1x 4/179, 2x 4/195								
(201) S-100	[µg/L]				8								8	8	100
Sample A					8								8	8	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		0,585	0,088	15	8	0	CVPG	0,597	0,007	32%	0,405	0,789	8		
Sample B					8								8	8	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		4,67	0,53	11	8	0	CVPG	4,6	0,069	32%	3,12	6,08	8		

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

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			
(195) SCCA	[µg/L]				8							7	6	86
Sample A												7	7	100
Other					8	0	4x 4/1, 3x 4/60, 1x 4/162					7		
Sample B												7	6	86
Other					8	0	4x 4/1, 3x 4/60, 1x 4/162					7		
(207) Thyreoglobulin	[µg/L]				5							4	4	100
Sample A												4	4	100
Other					5	0	1x 3/24, 2x 4/12, 1x 4/60, 1x 4/179					4		
Sample B												4	4	100
Other					5	0	1x 3/24, 2x 4/12, 1x 4/60, 1x 4/179					4		