

Summary statistics - quantitative results

(Groups: measurement principle, manufacturer of kit)

Filter: Czech Republic, minimal size of the groups n = 5

EQA round: TM3/21 - Tumour Markers

Deadline: 03.08.2021

RoM = robust average	AV = assigned value	Dmax = acceptable percent difference
SD = standard deviation	CRV = certified reference value	LL = lower limit
CV = coefficient of variation	RV = reference value	UL = upper limit
Ntot = total number of the participants	CVE = consensus value from experts	Neva = number of evaluated participants
Nout = number of results excluded before calculation	CVP = consensus value from all participants	Nsuc = number of successful participants
	CVPG = consensus value from participants groups	Srel = success (relative)
	U _{AV} = expanded uncertainty of the assigned value (k = 2)	

Test	[unit]	Comparability						Comparability						
		RoM	SD	CV [%]	N _{tot}	N _{out}	AV	U _{AV}	D _{max}	LL	UL	N _{eva}	N _{suc}	S _{rel}
(180) CA 125					37							37	36	97%
Samples and groups	[kU/L]													
Sample A		101	20	20	37							37	37	100%
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		118	6,2	5,2	18	0	CVPG	117	1,8	20%	93,6	141	18	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		84,7	4,0	4,7	10	0	CVPG	82,2	0,61	20%	65,7	98,7	10	
Other					9	0							9	
								4x 4/12, 1x 4/29, 1x 4/149, 3x 4/162						
Sample B		10,2	1,4	13	37							37	36	97%
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		11,1	0,76	6,8	18	0	CVPG	11	0,19	20%	8,8	13,2	18	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		10,2	0,38	3,7	10	0	CVPG	9,93	0,074	±2,07	7,93	12	10	
Other					9	0							9	
								4x 4/12, 1x 4/29, 1x 4/149, 3x 4/162						
(181) CA 15-3					36							36	33	92%
Samples and groups	[kU/L]													
Sample A		13,1	1,7	13	36							36	34	94%
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		13,2	1,6	12	15	0	CVPG	13,3	0,28	18%	10,9	15,7	15	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		10,0	0,15	1,5	5	0	CVPG	10,2	0,27	18%	8,36	12,1	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		13,7	0,99	7,2	11	0	CVPG	13,8	0,13	18%	11,3	16,3	11	
Other					5	0							5	
								1x 4/29, 1x 4/149, 3x 4/162						
Sample B		13,1	1,7	13	36							36	34	94%
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		13,1	1,4	10	15	0	CVPG	13,4	0,25	18%	10,9	15,9	15	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		10,6	0,44	4,2	5	0	CVPG	10,2	0,27	18%	8,36	12,1	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		13,9	1,0	7,3	11	0	CVPG	13,9	0,14	18%	11,3	16,5	11	
Other					5	0							5	
								1x 4/29, 1x 4/149, 3x 4/162						
(182) CA 19-9					38							38	38	100%
Samples and groups	[kU/L]													
Sample A		190	160	84	38							38	38	100%
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		349	22	6,3	16	0	CVPG	348	6,0	20%	278	418	16	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		82,8	3,3	4,0	5	0	CVPG	79,8	2,1	20%	63,8	95,8	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		57,3	2,3	4,1	12	0	CVPG	56,7	0,36	20%	45,3	68,1	12	
Other					5	0							5	
								1x 4/29, 1x 4/149, 2x 4/162, 1x 4/179						
Sample B		5,76	1,9	33	38							38	38	100%
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		4,19	0,48	11	16	0	CVPG	4,39	0,16	±2,8	1,59	7,19	16	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		5,67	0,50	8,8	5	0	CVPG	5,64	0,19	±2,8	2,84	8,44	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		7,31	0,65	8,9	12	0	CVPG	7,47	0,093	±2,83	4,67	10,3	12	
Other					5	0							5	
								1x 4/29, 1x 4/149, 2x 4/162, 1x 4/179						
(183) CA 72-4					27							26	26	100%
Samples and groups	[kU/L]													
Sample A		1,56	0,10	6,6	27							26	26	100%
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		1,56	0,099	6,4	26	0	CVPG	1,54	0,013	±0,6	0,94	2,14	26	
Other					1	0							0	
								1x 1/999						
Sample B		1,84	0,11	6,2	27							26	26	100%
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		1,83	0,10	5,7	26	0	CVPG	1,8	0,021	±0,6	1,2	2,4	26	
Other					1	0							0	
								1x 1/999						
(184) CYFRA 21-1					20							20	18	90%
Samples and groups	[µg/L]													
Sample A		23,2	1,3	5,7	20							20	20	100%
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		22,8	1,0	4,6	7	0	CVPG	22	0,63	18%	18	26	7	

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Test	[unit]						Comparability							N _{eva}	N _{suc}	S _{rel}		
		RoM	SD	CV [%]	N _{tot}	N _{out}	AV	U _{AV}	D _{max}	LL	UL							
(184) CYFRA 21-1																		
Samples and groups	[µg/L]				20										20	18	90%	
Sample A																		
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		23,2	1,3	5,7	20										20	20	100%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		23,5	1,4	5,9	13	0	CVPG	22,9	0,22	18%	18,7	27,1			13			
Sample B																		
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		5,05	1,0	20	20										20	18	90%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		4,05	0,37	9,2	7	0	CVPG	4,15	0,13	18%	3,4	4,9			7			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		5,60	0,51	9,0	13	0	CVPG	5,38	0,061	18%	4,41	6,35			13			
(185) AFP																		
Samples and groups	[µg/L]				37										37	36	97%	
Sample A																		
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		40,4	2,5	6,2	37										37	37	100%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		40,7	1,1	2,8	14	0	CVPG	39,8	0,46	20%	31,8	47,8			14			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		37,9	2,4	6,3	6	0	CVPG	38,2	1,0	20%	30,5	45,9			6			
Other		42,6	2,7	6,2	10	0	CVPG	43	0,37	20%	34,4	51,6			10			
					7	0									7			
								1x 3/24, 1x 4/29, 1x 4/149, 2x 4/162, 2x 4/179										
Sample B																		
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		80,9	6,6	8,2	37										37	36	97%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		80,8	2,3	2,9	14	0	CVPG	79,9	0,81	20%	63,9	95,9			14			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		73,1	1,8	2,4	6	0	CVPG	74,3	2,1	20%	59,4	89,2			6			
Other		85,3	9,1	11	10	0	CVPG	85,5	0,71	20%	68,4	103			10			
					7	0									7			
								1x 3/24, 1x 4/29, 1x 4/149, 2x 4/162, 2x 4/179										
(186) hCG																		
Samples and groups	[U/L]				45										45	41	91%	
Sample A																		
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		82,5	14	17	45										45	42	93%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		71,2	4,8	6,7	14	0	CVPG	69,1	0,94	18%	56,6	81,6			14			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		79,5	5,2	6,5	8	0	CVPG	76,3	1,4	18%	62,5	90,1			8			
Other		97,0	6,3	6,5	12	0	CVPG	97,4	0,71	18%	79,8	115			12			
					11	0									11			
								2x 4/29, 4x 4/162, 2x 4/179, 3x 4/210										
Sample B																		
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		111	18	16	45										45	41	91%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		96,0	4,6	4,8	14	0	CVPG	94,8	1,3	18%	77,7	112			14			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		112	11	9,6	8	0	CVPG	108	1,7	18%	88,5	128			8			
Other		130	11	8,3	12	0	CVPG	131	1,1	18%	107	155			12			
					11	0									11			
								2x 4/29, 4x 4/162, 2x 4/179, 3x 4/210										
(189) CEA																		
Samples and groups	[µg/L]				42										42	40	95%	
Sample A																		
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		7,99	0,78	9,8	42										42	42	100%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		8,60	0,44	5,1	18	0	CVPG	8,3	0,10	16%	6,97	9,63			18			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		7,86	0,53	6,8	5	0	CVPG	7,73	0,15	16%	6,49	8,97			5			
Other		7,62	0,35	4,6	13	0	CVPG	7,55	0,043	16%	6,34	8,76			13			
					6	0									6			
								1x 4/29, 1x 4/149, 3x 4/162, 1x 4/179										
Sample B																		
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		1,58	0,22	14	42										42	40	95%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		1,70	0,16	9,2	18	0	CVPG	1,67	0,038	16%	1,4	1,94			18			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		1,38	0,03	2,2	5	0	CVPG	1,34	0,033	16%	1,12	1,56			5			
Other		1,63	0,14	8,5	13	0	CVPG	1,59	0,018	16%	1,33	1,85			13			
					6	0									6			
								1x 4/29, 1x 4/149, 3x 4/162, 1x 4/179										
(191) PSA																		
Samples and groups	[µg/L]				50										48	43	90%	
Sample A																		
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		0,637	0,11	17	50										48	45	94%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		0,543	0,041	7,5	20	0	CVPG	0,529	0,0088±0,105	0,424	0,634			20				
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		0,750	0,015	2,0	6	0	CVPG	0,696	0,015±0,105	0,591	0,801			6				
Other		0,731	0,03	4,1	15	0	CVPG	0,718	0,041	15%	0,61	0,826			15			
					9	0									7			
								2x 4/29, 1x 4/149, 3x 4/162, 1x 4/179, 2x 4/195										
Sample B																		
		2,06	0,41	20	50										48	44	92%	

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(Groups: measurement principle, manufacturer of kit)

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Test	[unit]						Comparability						N _{eva}	N _{suc}	S _{rel}	
		RoM	SD	CV [%]	N _{tot}	N _{out}	AV	U _{AV}	D _{max}	LL	UL					
(191) PSA													48	43	90%	
Samples and groups	[µg/L]				50											
Sample B		2,06	0,41	20	50								48	44	92%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		1,72	0,098	5,7	20	0	CVPG	1,69	0,022	15%	1,43	1,95	20			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		2,61	0,10	4,0	6	0	CVPG	2,45	0,048	15%	2,08	2,82	6			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		2,30	0,10	4,4	15	0	CVPG	2,28	0,013	15%	1,93	2,63	15			
Other					9	0							7			
								2x 4/29, 1x 4/149, 3x 4/162, 1x 4/179, 2x 4/195								
(194) NSE					21								20	20	100%	
Samples and groups	[µg/L]															
Sample A		5,21	0,86	16	21								20	20	100%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		5,00	0,64	13	18	0	CVPG	5,28	0,12	30%	3,69	6,87	18			
Other					3	0							2			
								2x 4/164, 1x 4/999								
Sample B		101	9,2	9,1	21								20	20	100%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		101	8,2	8,1	18	0	CVPG	102	1,8	30%	71,4	133	18			
Other					3	0							2			
								2x 4/164, 1x 4/999								
(195) SCCA					15								15	15	100%	
Samples and groups	[µg/L]															
Sample A		1,11	0,30	27	15								15	15	100%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		1,00	0,11	11	10	0	CVPG	0,97	0,035	±0,7	0,27	1,67	10			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		1,34	0,31	23	5	0	CVPG	1,26	0,053	±0,7	0,56	1,96	5			
Sample B		1,07	0,16	15	15								15	15	100%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		1,03	0,091	8,8	10	0	CVPG	0,99	0,038	±0,7	0,29	1,69	10			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		1,21	0,18	15	5	0	CVPG	1,29	0,058	±0,7	0,59	1,99	5			
(196) TPA					5								5	5	100%	
Samples and groups	[U/L]															
Sample A		4230	410	9,7	5								5	5	100%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (164) DiaSorin		4230	410	9,7	5	0	CVPG	4040	87	25%	3030	5050	5			
Sample B		697	57	8,1	5								5	5	100%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (164) DiaSorin		697	57	8,1	5	0	CVPG	677	12	25%	507	847	5			
(198) free-PSA					48								46	42	91%	
Samples and groups	[µg/L]															
Sample A		0,434	0,055	13	48								46	44	96%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		0,454	0,023	5,1	19	0	CVPG	0,436	,0077±0,112	0,324	0,548		19			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		0,567	0,039	6,9	6	0	CVPG	0,527	0,016±0,112	0,415	0,639		6			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		0,383	0,012	3,2	14	0	CVPG	0,379	,0028±0,112	0,267	0,491		14			
Other					9	0							7			
								2x 4/29, 1x 4/149, 3x 4/162, 1x 4/179, 2x 4/195								
Sample B		1,59	0,14	8,8	48								46	42	91%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		1,59	0,091	5,7	19	0	CVPG	1,53	0,018	16%	1,28	1,78	19			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		2,22	0,21	9,4	6	0	CVPG	2,06	0,059	16%	1,73	2,39	6			
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		1,51	0,064	4,2	14	0	CVPG	1,5	,0094	16%	1,26	1,74	14			
Other					9	0							7			
								2x 4/29, 1x 4/149, 3x 4/162, 1x 4/179, 2x 4/195								
(201) S-100					14								14	14	100%	
Samples and groups	[µg/L]															
Sample A		0,069	0,007	11	14								14	14	100%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		0,067	0,004	6,5	12	0	CVPG	0,063	0	32%	0,042	0,084	12			
Other					2	0							2			
								2x 4/164								
Sample B		0,129	0,007	5,7	14								14	14	100%	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		0,128	0,008	6,5	12	0	CVPG	0,124	,0012	32%	0,084	0,164	12			
Other					2	0							2			
								2x 4/164								
(206) Calcitonin					7								6	6	100%	
Samples and groups	[ng/L]															
Sample A		21,1	7,7	37	7								6	6	100%	

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Test	[unit]						Comparability							
		RoM	SD	CV [%]	N _{tot}	N _{out}	AV	U _{AV}	D _{max}	LL	UL	N _{eva}	N _{suc}	S _{rel}
(206) Calcitonin	[ng/L]				7							6	6	100%
— Samples and groups														
Sample A		21,1	7,7	37	7							6	6	100%
Other					7	0						6		
							1x 4/29, 2x 4/60, 1x 4/162, 3x 4/164							
Sample B		1,60	0,88	55	7							6	6	100%
Other					7	0						6		
							1x 4/29, 2x 4/60, 1x 4/162, 3x 4/164							
(207) Thyreoglobulin	[µg/L]				22							21	20	95%
— Samples and groups														
Sample A		122	19	15	22							21	21	100%
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		119	4,6	3,9	7	0	CVPG	120	4,0	30%	84	156	7	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		120	3,3	2,8	7	0	CVPG	122	1,5	30%	85,4	159	7	
Other					8	0						7		
							4x 4/1, 3x 4/29, 1x 4/162							
Sample B		9,29	2,9	31	22							21	20	95%
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		9,05	0,52	5,7	7	0	CVPG	9	0,30	30%	6,3	11,7	7	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		11,9	0,39	3,3	7	0	CVPG	12,2	0,14	30%	8,54	15,9	7	
Other					8	0						7		
							4x 4/1, 3x 4/29, 1x 4/162							
(208) beta-2-microglobulin	[mg/L]				24							22	21	95%
— Samples and groups														
Sample A		3,64	0,14	3,9	24							22	22	100%
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (29) Siemens (Immulin)		3,67	0,037	1,0	5	0	CVPG	3,69	0,15	21%	2,91	4,47	5	
(6) IMT, IMN; (60) Roche		3,55	0,14	3,9	7	0	CVPG	3,61	0,033	21%	2,85	4,37	7	
Other					12	0						10		
							1x 2/148, 1x 4/164, 2x 6/1, 3x 6/58, 1x 6/91, 2x 6/149, 1x 6/162, 1x 99/149							
Sample B		1,53	0,20	13	24							22	21	95%
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (29) Siemens (Immulin)		1,65	0,14	8,5	5	0	CVPG	1,68	0,075	21%	1,32	2,04	5	
(6) IMT, IMN; (60) Roche		1,58	0,12	7,5	7	0	CVPG	1,57	0,017	21%	1,24	1,9	7	
Other					12	0						10		
							1x 2/148, 1x 4/164, 2x 6/1, 3x 6/58, 1x 6/91, 2x 6/149, 1x 6/162, 1x 99/149							

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End of report

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