

Summary statistics - quantitative results

(Groups: measurement principle, manufacturer of kit)

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

EQA round: E11/19 - Hormones 1

Dead line: 12.02.2019

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 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										Traceability													
		RoM	SD	CV [%]	N _{tot}	N _{out}	AV	U _{AV}	D _{max}	LL	UL	N _{eva}	N _{suc}	S _{rel}	AV	U _{AV}	D _{max}	LL	UL	N _{eva}	N _{suc}	S _{rel}			
(121) Total T3					43									43	37	86%					43	34	79%		
Samples and groups	[nmol/L]																								
Sample A		3,98	0,51	13	43									43	42	98%	CRV	4,167	0,044	20%	3,33	5,01	43	37	86%
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		3,69	0,24	6,5	12	0	CVPG	3,72	0,10	15%	3,16	4,28	12										12		
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		3,70	0,12	3,2	5	0	CVPG	3,46	0,18	15%	2,94	3,98	5										5		
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		4,36	0,22	5,1	11	0	CVPG	4,37	0,062	15%	3,71	5,03	11										11		
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		4,38	0,22	5,0	11	0	CVPG	4,49	0,099	15%	3,81	5,17	11										11		
Other					4	0							4										4		
							4x 4/29										4x 4/29								
Sample B		6,54	0,97	15	43									43	38	88%	CRV	6,4	0,085	20%	5,12	7,68	43	36	84%
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		5,87	0,83	14	12	0	CVPG	5,95	0,36	15%	5,05	6,85	12										12		
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		6,50	0,16	2,4	5	0	CVPG	6,09	0,46	15%	5,17	7,01	5										5		
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		6,88	0,39	5,6	11	0	CVPG	6,89	0,13	15%	5,85	7,93	11										11		
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		7,32	0,32	4,4	11	0	CVPG	7,47	0,17	15%	6,34	8,6	11										11		
Other					4	0							4										4		
							4x 4/29										4x 4/29								
(122) Total T4					41									41	38	93%					41	38	93%		
Samples and groups	[nmol/L]																								
Sample A		136	9,0	6,6	41									41	40	98%	CRV	144,4	1,4	17%	119	169	41	41	100%
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		137	7,1	5,2	14	0	CVPG	137	3,7	13%	119	155	14										14		
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		123	2,1	1,7	5	0	CVPG	124	4,3	13%	107	141	5										5		
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		137	6,8	5,0	10	0	CVPG	136	3,1	13%	118	154	10										10		
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		140	8,8	6,3	9	0	CVPG	141	4,3	13%	122	160	9										9		
Other					3	0							3										3		
							3x 4/29										3x 4/29								
Sample B		194	16	8,0	41									41	38	93%	CRV	201,3	2,3	17%	167	236	41	38	93%
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		198	8,8	4,5	14	0	CVPG	197	5,0	13%	171	223	14										14		
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		183	7,1	3,9	5	0	CVPG	185	6,9	13%	160	210	5										5		
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		184	8,0	4,3	10	0	CVPG	184	3,9	13%	160	208	10										10		
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		201	18	8,7	9	0	CVPG	205	7,5	13%	178	232	9										9		
Other					3	0							3										3		
							3x 4/29										3x 4/29								

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Test	[unit]	Comparability					Traceability																
		RoM	SD	CV [%]	N _{tot}	N _{out}	AV	U _{AV}	D _{max}	LL	UL	N _{eva}	N _{suc}	S _{rel}	AV	U _{AV}	D _{max}	LL	UL	N _{eva}	N _{suc}	S _{rel}	
(125) Free T3					70							69	58	84%									0
Samples and groups	[pmol/L]																						
Sample A		11,7	2,2	19	70							69	66	96%									0
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		10,0	0,77	7,7	20	0	CVPG	10,1	0,17	15%	8,58	11,7		20									
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		9,75	0,76	7,7	11	0	CVPG	9,85	0,20	15%	8,37	11,4		11									
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		14,1	0,63	4,5	17	0	CVPG	14,2	0,053	15%	12	16,4		17									
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		12,0	0,39	3,2	14	0	CVPG	12	0,081	15%	10,2	13,8		14									
Other					8	0								7									
								1x 1/36, 1x 2/29, 1x 3/15, 1x 3/25, 3x 4/29, 1x 4/149															
Sample B		23,2	4,8	21	70							69	59	86%									0
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		22,4	3,5	16	20	1	CVPG	21,8	0,55	15%	18,5	25,1		20									
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		19,8	1,4	7,2	11	0	CVPG	19,7	0,29	15%	16,7	22,7		11									
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		28,9	1,1	3,8	17	0	CVPG	29,1	0,099	15%	24,7	33,5		17									
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		21,8	1,3	6,1	14	0	CVPG	21,6	0,25	15%	18,3	24,9		14									
Other					8	0								7									
								1x 1/36, 1x 2/29, 1x 3/15, 1x 3/25, 3x 4/29, 1x 4/149															
(200) Ferritin					67							65	61	94%									0
Samples and groups	[µg/L]																						
Sample A		643	130	20	67							65	65	100%									0
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		808	57	7,1	17	1	CVPG	790	12	24%	600	980		17									
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		505	67	13	8	0	CVPG	516	13	24%	392	640		8									
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		684	34	5,0	9	0	CVPG	677	6,9	24%	514	840		9									
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		650	42	6,5	13	0	CVPG	665	13	24%	505	825		13									
(6) IMT, IMN; (60) Roche		537	31	5,9	5	0	CVPG	519	6,3	24%	394	644		5									
Other					15	0								13									
								1x 2/29, 1x 4/29, 2x 4/149, 4x 6/1, 1x 6/12, 4x 6/58, 1x 6/149, 1x 6/179															
Sample B		115	23	20	67							65	61	94%									0
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		141	13	9,3	17	0	CVPG	135	2,2	24%	102	168		17									
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		91,2	19	21	8	0	CVPG	87,8	2,2	24%	66,7	109		8									
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		122	5,7	4,7	9	0	CVPG	123	1,5	24%	93,4	153		9									
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		108	12	11	13	0	CVPG	107	2,1	24%	81,3	133		13									
(6) IMT, IMN; (60) Roche		101	9,7	9,7	5	0	CVPG	102	1,8	24%	77,5	127		5									
Other					15	0								13									
								1x 2/29, 1x 4/29, 2x 4/149, 4x 6/1, 1x 6/12, 4x 6/58, 1x 6/149, 1x 6/179															
(301) Cortisol					40							40	34	85%									40
Samples and groups	[nmol/L]																						34
Sample A		284	38	13	40							40	36	90% CRV	300,7	3,0	22%	234	367				40
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		249	7,4	3,0	9	0	CVPG	254	3,4	16%	213	295		9									9

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		RoM	SD	CV [%]	N _{tot}	N _{out}	AV	U _{AV}	D _{max}	LL	UL	N _{eva}	N _{suc}	S _{rel}	AV	U _{AV}	D _{max}	LL	UL	N _{eva}	N _{suc}	S _{rel}	
(301) Cortisol					40							40	34	85%							40	34	85%
--- Samples and groups ---	[nmol/L]																						
Sample A		284	38	13	40							40	36	90%	CRV	300,7	3,0	22%	234	367	40	36	90%
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		256	39	15	6	0	CVPG	242	7,3	16%	203	281	6								6		
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		309	25	7,9	16	0	CVPG	296	2,8	16%	248	344	16								16		
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		292	33	11	7	0	CVPG	288	5,7	16%	241	335	7								7		
Other					2	0							2								2		
															2x 4/29								
Sample B		1030	130	12	40							40	36	90%	CRV	1029	11	22%	802	1260	40	37	93%
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		882	36	4,1	9	0	CVPG	909	12	16%	763	1060	9								9		
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		1030	80	7,8	6	0	CVPG	987	29	16%	829	1150	6								6		
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		1080	87	8,1	16	0	CVPG	1040	11	16%	873	1210	16								16		
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		1120	59	5,3	7	0	CVPG	1120	20	16%	940	1300	7								7		
Other					2	0							2								2		
															2x 4/29								
(302) 17-beta-estradiol					47							46	45	98%							0		
--- Samples and groups ---	[pmol/L]																						
Sample A		645	45	7,0	47							46	46	100%							0		
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		620	24	3,8	14	0	CVPG	622	7,7	22%	485	759	14										
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		699	53	7,6	6	0	CVPG	693	15	22%	540	846	6										
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		670	30	4,5	16	0	CVPG	663	4,6	22%	517	809	16										
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		628	42	6,7	7	0	CVPG	622	8,4	22%	485	759	7										
Other					4	0							3										
															1x 1/185, 3x 4/29								
Sample B		668	34	5,0	47							46	45	98%							0		
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		661	27	4,2	14	0	CVPG	663	7,6	22%	517	809	14										
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		710	21	2,9	6	0	CVPG	701	14	22%	546	856	6										
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		679	24	3,6	16	0	CVPG	668	4,5	22%	521	815	16										
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		661	17	2,6	7	0	CVPG	663	8,4	22%	517	809	7										
Other					4	0							3										
															1x 1/185, 3x 4/29								
(303) Aldosterone					10							9	9	100%							0		
--- Samples and groups ---	[nmol/L]																						
Sample A		0,220	0,06	31	10							9	9	100%							0		
Other					10	0							9										
															1x 1/185, 3x 1/218, 3x 4/164, 3x 4/183								
Sample B		1,12	0,25	22	10							9	9	100%							0		
Other					10	0							9										
															1x 1/185, 3x 1/218, 3x 4/164, 3x 4/183								

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		RoM	SD	CV [%]	N _{tot}	N _{out}	AV	U _{AV}	D _{max}	LL	UL	N _{eva}	N _{suc}	S _{rel}	AV	U _{AV}	D _{max}	LL	UL	N _{eva}	N _{suc}	S _{rel}	
(304) Progesterone	[nmol/L]				43							42	39	93%							43	38	88%
Samples and groups																							
Sample A		6,00	0,44	7,4	43						42	40	95%	CRV	5,64	0,060	26%	4,17	7,11	43	41	95%	
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		5,66	0,26	4,7	12	0	CVPG	5,63	0,11	20%	4,5	6,76	12							12			
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		6,51	0,56	8,5	6	0	CVPG	6,28	0,26	20%	5,02	7,54	6							6			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		6,13	0,34	5,5	13	0	CVPG	6,02	0,074	20%	4,81	7,23	13							13			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		6,45	0,67	10	8	0	CVPG	6,18	0,12	20%	4,94	7,42	8							8			
Other					4	0							3								4		
								1x 3/25, 3x 4/29							1x 3/25, 3x 4/29								
Sample B		26,3	4,7	18	43						42	40	95%	CRV	26,35	0,26	26%	19,4	33,3	43	40	93%	
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		26,5	1,5	5,7	12	0	CVPG	26,6	0,45	20%	21,2	32	12							12			
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		24,5	3,2	13	6	0	CVPG	23	0,72	20%	18,4	27,6	6							6			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		30,7	1,2	3,9	13	0	CVPG	30,3	0,22	20%	24,2	36,4	13							13			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		21,7	3,0	14	8	0	CVPG	21,1	0,37	20%	16,8	25,4	8							8			
Other					4	0							3								4		
								1x 3/25, 3x 4/29							1x 3/25, 3x 4/29								
(305) Testosterone	[nmol/L]				45							45	42	93%							45	44	98%
Samples and groups																							
Sample A		9,26	0,91	9,9	45						45	44	98%	CRV	9,348	0,093	30%	6,54	12,2	45	44	98%	
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		9,03	0,68	7,5	12	0	CVPG	9,67	0,19	22%	7,54	11,8	12							12			
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		8,06	0,92	11	7	0	CVPG	8,17	0,20	22%	6,37	9,97	7							7			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		9,88	0,61	6,2	14	0	CVPG	9,68	0,075	22%	7,55	11,9	14							14			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		9,73	0,93	9,6	8	0	CVPG	9,53	0,18	22%	7,43	11,7	8							8			
Other					4	0							4								4		
								4x 4/29							4x 4/29								
Sample B		5,36	0,50	9,3	45						45	42	93%	CRV	5,433	0,077	30%	3,8	7,07	45	44	98%	
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		4,87	0,51	10	12	0	CVPG	5,33	0,092	22%	4,15	6,51	12							12			
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		5,49	0,62	11	7	0	CVPG	5,63	0,13	22%	4,39	6,87	7							7			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		5,64	0,39	6,9	14	0	CVPG	5,65	0,046	22%	4,4	6,9	14							14			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		5,37	0,64	12	8	0	CVPG	5,24	0,10	22%	4,08	6,4	8							8			
Other					4	0							4								4		
								4x 4/29							4x 4/29								
(306) 17-OH-progesterone	[nmol/L]				8							8	8	100%							8	8	100%
Samples and groups																							
Sample A		7,33	0,33	4,5	8						8	8	100%	CRV	8,275	0,083	44%	4,63	12	8	8	100%	
(1) RIA (IRMA); (36) Immunotech		7,45	0,16	2,1	5	0	CVPG	7,46	0,26	33%	4,99	9,93	5							5			
Other					3	0							3								3		
								3x 4/183							3x 4/183								
Sample B		6,62	0,87	13	8						8	8	100%	CRV	7,113	0,071	44%	3,98	10,3	8	8	100%	

