

Summary statistics - quantitative results

(Groups: measurement principle, manufacturer of kit)

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

EQA round: E22/19 - Hormones 2

Dead line: 07.05.2019

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												
		RoM	SD	CV [%]	N _{tot}	N _{out}	AV	U _{AV}	D _{max}	LL	UL	N _{eva}	N _{suc}	S _{rel}
(193) Ferritin					111							109	97	89%
Samples and groups	[µg/L]													
Sample A		122	18	14	111							109	108	99%
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		125	8,3	6,7	30	0	CVPG	124	2,5	24%	94,2	154	30	
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		91,4	5,9	6,5	11	0	CVPG	92,5	2,5	24%	70,3	115	11	
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		141	11	7,8	22	0	CVPG	138	2,1	24%	104	172	22	
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		120	12	9,7	18	0	CVPG	120	2,6	24%	91,2	149	18	
(6) IMT, IMN; (58) Beckman Coulter (Olympus)		118	7,3	6,2	5	0	CVPG	119	3,5	24%	90,4	148	5	
(6) IMT, IMN; (60) Roche		122	15	12	13	0	CVPG	127	4,7	24%	96,5	158	13	
Other					12	0							10	
								3x 3/25, 4x 4/29, 1x 4/40, 1x 4/149, 2x 6/1, 1x 6/179						
Sample B		59,7	12	21	111							109	97	89%
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		55,9	6,4	11	30	0	CVPG	56,4	1,8	24%	42,8	70	30	
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		45,6	3,8	8,2	11	0	CVPG	47	2,1	24%	35,7	58,3	11	
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		70,1	9,1	13	22	0	CVPG	75,5	1,3	24%	57,3	93,7	22	
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		55,2	7,3	13	18	0	CVPG	57,5	2,1	24%	43,7	71,3	18	
(6) IMT, IMN; (58) Beckman Coulter (Olympus)		70,5	2,0	2,8	5	0	CVPG	72,8	2,8	24%	55,3	90,3	5	
(6) IMT, IMN; (60) Roche		69,5	13	19	13	0	CVPG	77,8	3,3	24%	59,1	96,5	13	
Other					12	0							10	
								3x 3/25, 4x 4/29, 1x 4/40, 1x 4/149, 2x 6/1, 1x 6/179						
(320) LH					98							97	94	97%
Samples and groups	[U/L]													
Sample A		126	22	18	98							97	95	98%
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		112	5,8	5,2	22	0	CVPG	111	1,8	15%	94,3	128	22	
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		99,8	6,8	6,8	18	0	CVPG	101	2,2	15%	85,8	117	18	
(4) LIA (CLIA, CMIA, ECLIA); (29) Siemens (DPC)		197	10	5,3	8	0	CVPG	197	1,9	15%	167	227	8	
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		132	4,9	3,7	28	0	CVPG	133	0,75	15%	113	153	28	
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		143	6,2	4,3	14	0	CVPG	141	1,7	15%	119	163	14	
Other					8	0							7	
								1x 1/36, 4x 3/25, 1x 4/40, 1x 4/149, 1x 4/164						
Sample B		10,6	2,2	21	98							97	95	98%
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		9,11	0,42	4,6	22	0	CVPG	9,04	0,13	15%	7,68	10,4	22	
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		8,52	0,40	4,7	18	0	CVPG	8,66	0,17	15%	7,36	9,96	18	
(4) LIA (CLIA, CMIA, ECLIA); (29) Siemens (DPC)		15,0	0,96	6,4	8	0	CVPG	15,3	0,30	15%	13	17,6	8	
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		12,5	0,58	4,7	28	0	CVPG	12,7	0,079	15%	10,7	14,7	28	
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		9,74	0,35	3,6	14	0	CVPG	9,68	0,11	15%	8,22	11,2	14	
Other					8	0							7	
								1x 1/36, 4x 3/25, 1x 4/40, 1x 4/149, 1x 4/164						
(321) FSH					99							98	93	95%
Samples and groups	[U/L]													
Sample A		16,4	2,5	15	99							98	95	97%
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		16,3	0,87	5,3	24	0	CVPG	16,1	0,17	15%	13,6	18,6	24	
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		13,8	1,1	8,1	18	0	CVPG	13,7	0,26	15%	11,6	15,8	18	
(4) LIA (CLIA, CMIA, ECLIA); (29) Siemens (DPC)		17,5	1,5	8,5	8	0	CVPG	17,4	0,19	15%	14,7	20,1	8	
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		16,6	0,85	5,1	27	0	CVPG	16,6	0,098	15%	14,1	19,1	27	
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		22,5	0,92	4,1	14	0	CVPG	22,6	0,27	15%	19,2	26	14	
Other					8	0							7	
								1x 1/36, 4x 3/25, 1x 4/40, 1x 4/149, 1x 4/164						
Sample B		91,7	18	20	99							98	96	98%
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		91,9	5,5	6,0	24	0	CVPG	90,8	1,2	15%	77,1	105	24	
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		69,0	4,3	6,3	18	0	CVPG	68,8	1,3	15%	58,4	79,2	18	

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EQA round: E22/19 - Hormones 2

Dead line: 07.05.2019

Test	[unit]	RoM	SD	CV [%]	N _{tot}	N _{out}	Comparability						N _{eva}	N _{suc}	S _{rel}	
							AV	U _{AV}	D _{max}	LL	UL					
(321) FSH					99								98	93	95%	
Samples and groups	[U/L]															
Sample B		91,7	18	20	99								98	96	98%	
(4) LIA (CLIA, CMIA, ECLIA); (29) Siemens (DPC)		101	4,3	4,3	8	0	CVPG	102	1,4	15%	86,7	118	8			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		94,3	4,8	5,1	27	0	CVPG	93,7	0,61	15%	79,6	108	27			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		133	4,6	3,5	14	0	CVPG	134	1,3	15%	113	155	14			
Other					8	0							7			
								1x 1/36, 4x 3/25, 1x 4/40, 1x 4/149, 1x 4/164								
(322) Prolactin					106								105	102	97%	
Samples and groups	[mU/L]															
Sample A		400	38	9,6	106								105	102	97%	
(3) FIA (FEIA, TRACE); (25) TOSOH		390	4,6	1,2	5	0	CVPG	375	14	16%	315	435	5			
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		416	21	5,1	25	0	CVPG	421	5,2	16%	353	489	25			
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		367	15	4,1	19	0	CVPG	364	4,7	16%	305	423	19			
(4) LIA (CLIA, CMIA, ECLIA); (29) Siemens (DPC)		387	18	4,6	9	0	CVPG	375	7,4	16%	315	435	9			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		428	23	5,5	31	0	CVPG	423	3,1	16%	355	491	31			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		348	22	6,4	13	0	CVPG	347	5,5	16%	291	403	13			
Other					4	0							3			
								1x 1/36, 1x 4/40, 1x 4/149, 1x 4/164								
Sample B		243	31	13	106								105	102	97%	
(3) FIA (FEIA, TRACE); (25) TOSOH		234	5,2	2,2	5	0	CVPG	225	7,9	16%	189	261	5			
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		251	11	4,5	25	0	CVPG	251	2,8	16%	210	292	25			
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		221	8,9	4,0	19	0	CVPG	220	3,3	16%	184	256	19			
(4) LIA (CLIA, CMIA, ECLIA); (29) Siemens (DPC)		223	7,4	3,3	9	0	CVPG	214	4,1	16%	179	249	9			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		273	14	5,1	31	0	CVPG	269	1,9	16%	225	313	31			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		202	7,1	3,5	13	0	CVPG	202	2,0	16%	169	235	13			
Other					4	0							3			
								1x 1/36, 1x 4/40, 1x 4/149, 1x 4/164								
(325) Insulin					27								25	25	100%	
Samples and groups	[mU/L]															
Sample A		80,7	13	16	27								25	25	100%	
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		65,3	1,9	2,8	6	0	CVPG	65,1	1,1	20%	52	78,2	6			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		90,7	6,1	6,7	10	0	CVPG	92,2	0,93	20%	73,7	111	10			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		82,7	3,3	4,0	6	0	CVPG	81,7	2,0	20%	65,3	98,1	6			
Other					5	0							3			
								1x 1/36, 1x 3/25, 3x 4/12								
Sample B		20,8	3,5	17	27								25	25	100%	
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		17,2	0,44	2,6	6	0	CVPG	16,8	0,34	20%	13,4	20,2	6			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		23,6	1,5	6,4	10	0	CVPG	24	0,24	20%	19,2	28,8	10			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		21,9	1,0	4,7	6	0	CVPG	21,6	0,41	20%	17,2	26	6			
Other					5	0							3			
								1x 1/36, 1x 3/25, 3x 4/12								
(326) Folate					114								112	96	86%	
Samples and groups	[nmol/L]															
Sample A		8,19	1,8	22	114								112	104	93%	
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		9,36	0,79	8,4	32	0	CVPG	9,53	0,21	27%	6,95	12,2	32			
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		8,56	0,39	4,6	15	0	CVPG	8,35	0,14	27%	6,09	10,7	15			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		6,65	1,1	17	44	0	CVPG	6,86	0,14	27%	5	8,72	44			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		9,37	0,96	10	17	0	CVPG	9,26	0,26	27%	6,75	11,8	17			
Other					6	0							4			
								1x 3/25, 3x 4/29, 1x 4/40, 1x 4/149								
Sample B		48,7	8,8	18	114								112	101	90%	
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		58,5	5,4	9,2	32	2	CVPG	57,5	1,5	27%	41,9	73,1	32			
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		48,0	2,0	4,2	15	0	CVPG	48	0,64	27%	35	61	15			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		42,3	3,4	8,0	44	0	CVPG	43	0,41	27%	31,3	54,7	44			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		53,5	2,0	3,8	17	0	CVPG	52,9	0,96	27%	38,6	67,2	17			
Other					6	0							4			
								1x 3/25, 3x 4/29, 1x 4/40, 1x 4/149								

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EQA round: E22/19 - Hormones 2

Dead line: 07.05.2019

Test	[unit]						Comparability							
		RoM	SD	CV [%]	N _{tot}	N _{out}	AV	U _{AV}	D _{max}	LL	UL	N _{eva}	N _{suc}	S _{rel}
(327) Vitamin B12					100							98	91	93%
Samples and groups	[pmol/L]													
Sample A		335	35	10	100							98	95	97%
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		328	17	5,3	26	0	CVPG	334	5,8	20%	267	401	26	
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		276	22	7,8	16	0	CVPG	272	4,8	20%	217	327	16	
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		359	13	3,6	39	0	CVPG	359	2,2	20%	287	431	39	
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		325	30	9,1	13	0	CVPG	339	7,5	20%	271	407	13	
Other					6	0							4	
								1x 3/25, 3x 4/29, 1x 4/40, 1x 4/149						
Sample B		216	33	15	100							98	92	94%
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		211	19	9,1	26	0	CVPG	216	4,6	20%	172	260	26	
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		170	10	6,0	16	0	CVPG	167	3,7	20%	133	201	16	
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		240	17	7,1	39	0	CVPG	238	2,0	20%	190	286	39	
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		206	31	15	13	0	CVPG	222	5,6	20%	177	267	13	
Other					6	0							4	
								1x 3/25, 3x 4/29, 1x 4/40, 1x 4/149						
(328) hGH					20							19	15	79%
Samples and groups	[mU/L]													
Sample A		23,8	2,1	9,0	20							19	16	84%
(4) LIA (CLIA, CMIA, ECLIA); (29) Siemens (DPC)		24,0	0,96	4,0	7	0	CVPG	25,4	0,49	19%	20,5	30,3	7	
Other					13	0							12	
								2x 1/36, 1x 3/25, 2x 4/12, 4x 4/60, 3x 4/164, 1x 4/183						
Sample B		10,1	1,5	15	20							19	16	84%
(4) LIA (CLIA, CMIA, ECLIA); (29) Siemens (DPC)		10,6	1,3	13	7	0	CVPG	10,9	0,21	19%	8,82	13	7	
Other					13	0							12	
								2x 1/36, 1x 3/25, 2x 4/12, 4x 4/60, 3x 4/164, 1x 4/183						
(329) IGF-1					23							22	21	95%
Samples and groups	[µg/L]													
Sample A		211	43	20	23							22	22	100%
(4) LIA (CLIA, CMIA, ECLIA); (29) Siemens (DPC)		180	17	9,5	9	0	CVPG	175	3,4	22%	136	214	9	
(4) LIA (CLIA, CMIA, ECLIA); (164) DiaSorin		260	14	5,4	7	0	CVPG	258	7,4	22%	201	315	7	
Other					7	0							6	
								2x 1/36, 1x 2/999, 3x 4/60, 1x 4/183						
Sample B		211	40	19	23							22	21	95%
(4) LIA (CLIA, CMIA, ECLIA); (29) Siemens (DPC)		181	13	7,4	9	0	CVPG	177	4,1	22%	138	216	9	
(4) LIA (CLIA, CMIA, ECLIA); (164) DiaSorin		243	42	17	7	0	CVPG	259	7,8	22%	202	316	7	
Other					7	0							6	
								2x 1/36, 1x 2/999, 3x 4/60, 1x 4/183						
(390) Renin					18							18	18	100%
Samples and groups	[ng/L]													
Sample A		35,2	4,6	13	18							18	18	100%
(1) RIA (IRMA); (185) Cisbio		31,3	2,7	8,5	6	0	CVPG	31,1	0,98	20%	24,8	37,4	6	
(4) LIA (CLIA, CMIA, ECLIA); (164) DiaSorin		36,1	2,9	8,0	7	0	CVPG	33,4	0,70	20%	26,7	40,1	7	
Other					5	0							5	
								1x 2/66, 4x 4/183						
Sample B		34,3	4,5	13	18							18	18	100%
(1) RIA (IRMA); (185) Cisbio		30,3	0,87	2,9	6	0	CVPG	30	0,51	20%	24	36	6	
(4) LIA (CLIA, CMIA, ECLIA); (164) DiaSorin		36,1	4,3	12	7	0	CVPG	33,4	0,77	20%	26,7	40,1	7	
Other					5	0							5	
								1x 2/66, 4x 4/183						
(392) IGF-BP3					7							5	4	80%
Samples and groups	[µg/L]													
Sample A		4320	640	15	7							5	4	80%
(4) LIA (CLIA, CMIA, ECLIA); (29) Siemens (DPC)		4230	190	4,4	5	0	CVPG	4280	95	20%	3420	5140	5	
Other					2	0							0	
								1x 1/36, 1x 1/66						
Sample B		4220	650	16	7							5	5	100%
(4) LIA (CLIA, CMIA, ECLIA); (29) Siemens (DPC)		4330	490	11	5	0	CVPG	4270	120	20%	3410	5130	5	
Other					2	0							0	
								1x 1/36, 1x 1/66						

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							AV	U _{AV}	D _{max}	LL	UL	N _{eva}	N _{suc}	S _{rel}
(407) Parathyroid hormone (PTH 1-84)	[pmol/L]				29							28	25	89%
----- Samples and groups -----														
Sample B		0,867	0,19	22	29							28	25	89%
Other					5	0						4		
							1x 3/60, 4x 4/164							
st_kn_p							End of report							Printed: 23.05.2019