

## Summary statistics - quantitative results

(Groups: measurement principle, manufacturer of kit)

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

Dead line: 07.08.2018

## EQA round: E13/18 - Hormones 1

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 <sub>AV</sub> = expanded uncertainty of the assigned value (k = 2)	

Test	[unit]	Comparability										Traceability														
		RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>				
<b>(121) Total T3</b>					28									28	26	93%						28	19	68%		
Samples and groups	[nmol/L]																									
<b>Sample A</b>		3,98	0,61	15	28									28	27	96%	CRV	4,167	0,044	20%	3,33	5,01	28	24	86%	
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		3,60	0,24	6,8	10	0	CVPG	3,67	0,11	15%	3,11	4,23		10									10			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		4,58	0,40	8,7	8	0	CVPG	4,35	0,062	15%	3,69	5,01		8									8			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		4,42	0,27	6,0	5	0	CVPG	4,52	0,13	15%	3,84	5,2		5									5			
Other					5	0								5										5		
								4x 4/12, 1x 4/29									4x 4/12, 1x 4/29									
<b>Sample B</b>		1,94	0,39	20	28									28	27	96%	CRV	2,049	0,020	20%	1,63	2,46	28	20	71%	
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		1,65	0,13	7,7	10	0	CVPG	1,66	0,056	15%	1,41	1,91		10									10			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		2,29	0,16	7,1	8	0	CVPG	2,21	0,040	15%	1,87	2,55		8									8			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		2,23	0,15	6,7	5	0	CVPG	2,29	0,099	15%	1,94	2,64		5									5			
Other					5	0								5										5		
								4x 4/12, 1x 4/29									4x 4/12, 1x 4/29									
<b>(122) Total T4</b>					27									27	26	96%							27	26	96%	
Samples and groups	[nmol/L]																									
<b>Sample A</b>		135	8,6	6,4	27									27	27	100%	CRV	144,4	1,4	17%	119	169	27	27	100%	
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		137	2,6	1,9	10	0	CVPG	136	4,4	13%	118	154		10									10			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		139	7,5	5,4	8	0	CVPG	137	2,6	13%	119	155		8									8			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		137	1,6	1,1	5	0	CVPG	139	3,0	13%	120	158		5									5			
Other					4	0								4										4		
								4x 4/12									4x 4/12									
<b>Sample B</b>		254	23	8,9	27									27	26	96%	CRV	261,2	2,9	17%	216	306	27	26	96%	
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		262	17	6,6	10	0	CVPG	264	14	13%	229	299		10									10			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		248	22	9,0	8	0	CVPG	245	5,3	13%	213	277		8									8			
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		271	5,9	2,2	5	0	CVPG	273	8,9	13%	237	309		5									5			
Other					4	0								4										4		
								4x 4/12									4x 4/12									
<b>(123) TSH</b>					57									57	56	98%									0	
Samples and groups	[mU/L]																									
<b>Sample A</b>		9,28	1,3	14	57									57	56	98%									0	
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		8,15	0,41	5,0	21	0	CVPG	8,11	0,070	14%	6,97	9,25		21												
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		9,22	0,48	5,2	10	0	CVPG	9,25	0,097	14%	7,95	10,6		10												

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Test	[unit]	Comparability					Traceability																	
		RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>		
<b>(123) TSH</b>					57							57	56	98%							0			
Samples and groups	[mU/L]																							
<b>Sample A</b>		9,28	1,3	14	57							57	56	98%							0			
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		10,8	0,24	2,2	16	0	CVPG	10,8	0,031	14%	9,28	12,4		16										
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		9,36	0,43	4,6	6	0	CVPG	9,31	0,097	14%	8	10,7		6										
Other					4	0								4										
<b>Sample B</b>		4,79	0,65	14	57							57	57	100%							0			
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		4,23	0,25	5,8	21	0	CVPG	4,21	0,042	14%	3,62	4,8		21										
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		4,70	0,29	6,2	10	0	CVPG	4,67	0,046	14%	4,01	5,33		10										
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		5,57	0,12	2,1	16	0	CVPG	5,54	0,016	14%	4,76	6,32		16										
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		4,76	0,23	4,8	6	0	CVPG	4,76	0,053	14%	4,09	5,43		6										
Other					4	0								4										
<b>(124) Free T4</b>					57							57	56	98%							0			
Samples and groups	[pmol/L]																							
<b>Sample A</b>		22,4	4,0	18	57							57	57	100%							0			
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		18,9	1,1	5,8	21	0	CVPG	19,1	0,17	13%	16,6	21,6		21										
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		21,0	0,77	3,7	10	0	CVPG	21,5	0,24	13%	18,7	24,3		10										
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		26,6	0,96	3,6	16	0	CVPG	26,8	0,13	13%	23,3	30,3		16										
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		23,2	1,0	4,4	6	0	CVPG	23,8	0,30	13%	20,7	26,9		6										
Other					4	0								4										
<b>Sample B</b>		50,8	13	25	57							57	56	98%							0			
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		38,6	3,0	7,8	21	0	CVPG	40,1	0,53	13%	34,8	45,4		21										
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		50,6	1,0	2,0	10	0	CVPG	50,3	0,69	13%	43,7	56,9		10										
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		65,3	2,7	4,2	16	0	CVPG	66	0,38	13%	57,4	74,6		16										
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		52,6	1,6	3,0	6	0	CVPG	52,6	0,79	13%	45,7	59,5		6										
Other					4	0								4										
<b>(125) Free T3</b>					49							49	44	90%							0			
Samples and groups	[pmol/L]																							
<b>Sample A</b>		11,8	2,5	21	49							49	46	94%							0			
(4) LIA (CLIA, CMIA, ECLIA); (1) Abbott		10,2	1,1	11	16	0	CVPG	10,2	0,19	15%	8,67	11,8		16										
(4) LIA (CLIA, CMIA, ECLIA); (12) Beckman Coulter		9,52	0,71	7,5	9	0	CVPG	9,89	0,17	15%	8,4	11,4		9										
(4) LIA (CLIA, CMIA, ECLIA); (60) Roche		14,4	0,66	4,6	15	0	CVPG	14,4	0,054	15%	12,2	16,6		15										
(4) LIA (CLIA, CMIA, ECLIA); (179) Siemens (Bayer)		11,8	0,37	3,1	6	0	CVPG	11,9	0,085	15%	10,1	13,7		6										



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Test	[unit]	Comparability										Traceability											
		RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	
<b>(301) Cortisol</b>	[nmol/L]				26							26	25	96%							26	25	96%
Samples and groups																							
<b>Sample B</b>		297	34	11	26							26	26	100%	CRV	305,9	3,7	22%	238	374	26	25	96%
(4) LIA (CLIA, CMIA, ECLIA); (60)		319	24	7,6	12	0	CVPG	308	3,3	16%	258	358	12								12		
Roche																							
Other					9	0							9								9		
								4x 4/12, 1x 4/29, 4x 4/179								4x 4/12, 1x 4/29, 4x 4/179							
<b>(302) 17-beta-estradiol</b>	[pmol/L]				29							29	28	97%							29	28	97%
Samples and groups																							
<b>Sample A</b>		642	61	9,6	29							29	29	100%	CRV	647,4	7,6	30%	453	842	29	29	100%
(4) LIA (CLIA, CMIA, ECLIA); (1)		605	10	1,7	9	0	CVPG	611	6,4	22%	476	746	9								9		
Abbott																							
(4) LIA (CLIA, CMIA, ECLIA); (12)		709	61	8,6	5	0	CVPG	740	28	22%	577	903	5								5		
Beckman Coulter																							
(4) LIA (CLIA, CMIA, ECLIA); (60)		673	48	7,2	9	0	CVPG	664	4,2	22%	517	811	9								9		
Roche																							
(4) LIA (CLIA, CMIA, ECLIA); (179)		600	30	4,9	5	0	CVPG	628	8,2	22%	489	767	5								5		
Siemens (Bayer)																							
Other					1	0							1								1		
								1x 4/29								1x 4/29							
<b>Sample B</b>		1350	160	12	29							29	28	97%	CRV	1304	15	30%	912	1700	29	28	97%
(4) LIA (CLIA, CMIA, ECLIA); (1)		1230	13	1,1	9	0	CVPG	1240	8,6	22%	967	1520	9								9		
Abbott																							
(4) LIA (CLIA, CMIA, ECLIA); (12)		1470	34	2,3	5	0	CVPG	1530	37	22%	1190	1870	5								5		
Beckman Coulter																							
(4) LIA (CLIA, CMIA, ECLIA); (60)		1470	63	4,3	9	0	CVPG	1470	8,0	22%	1140	1800	9								9		
Roche																							
(4) LIA (CLIA, CMIA, ECLIA); (179)		1260	64	5,0	5	0	CVPG	1350	16	22%	1050	1650	5								5		
Siemens (Bayer)																							
Other					1	0							1								1		
								1x 4/29								1x 4/29							
<b>(303) Aldosterone</b>	[nmol/L]				6							6	5	83%							0		
Samples and groups																							
<b>Sample A</b>		0,269	0,03	12	6							6	5	83%							0		
(4) LIA (CLIA, CMIA, ECLIA); (164)		0,273	0,02	9,2	5	0	CVPG	0,269	0,063	33%	0,18	0,358	5										
DiaSorin																							
Other					1	0							1										
								1x 1/218															
<b>Sample B</b>		1,38	0,09	7,0	6							6	6	100%							0		
(4) LIA (CLIA, CMIA, ECLIA); (164)		1,38	0,09	7,0	5	0	CVPG	1,4	0,022	33%	0,938	1,87	5										
DiaSorin																							
Other					1	0							1										
								1x 1/218															
<b>(304) Progesterone</b>	[nmol/L]				29							29	28	97%							0		
Samples and groups																							
<b>Sample A</b>		6,05	0,68	11	29							29	29	100%							0		
(4) LIA (CLIA, CMIA, ECLIA); (1)		5,75	0,22	3,9	9	0	CVPG	5,84	0,095	20%	4,67	7,01	9										
Abbott																							
(4) LIA (CLIA, CMIA, ECLIA); (12)		6,13	1,1	19	5	0	CVPG	6,32	0,23	20%	5,05	7,59	5										
Beckman Coulter																							
(4) LIA (CLIA, CMIA, ECLIA); (60)		6,42	0,47	7,3	9	0	CVPG	6,21	0,067	20%	4,96	7,46	9										
Roche																							
(4) LIA (CLIA, CMIA, ECLIA); (179)		6,27	0,59	9,5	5	0	CVPG	6,45	0,15	20%	5,16	7,74	5										
Siemens (Bayer)																							



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<b>(307) DHEA-S</b>					15							15	14	93%									0
— Samples and groups	[µmol/L]																						
<b>Sample B</b>		6,26	1,1	17	15							15	14	93%									0
Other					8	0						8											
							1x 4/1, 3x 4/12, 2x 4/29, 2x 4/179																

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End of report

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