

EQA round: E22/24 - Hormones 2

Deadline: 26.4.2024

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

RoM = robust average

SD = standard deviation

CV = coefficient of variation

N_{tot} = total number of the resultsN_{out} = number of the results removed before calculation

AV = assigned value

CVPG = consensus of the participants' groups

U_{AV} = expanded uncertainty of the assigned value (k = 2)D_{max} = acceptable difference

LL = lower limit

UL = upper limit

N_{eva} = number of the results assessedN_{suc} = number of successful resultsS_{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			
(393) C-peptide	[pmol/L]				14							12	12	100
Sample A		464	55	12	14							12	12	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		446	25	5,7	5	0	CVPG	436	15	20%	348	524	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		503	49	9,8	7	0	CVPG	508	14	20%	406	610	7	
Other					2	0							0	
								1x 1/36, 1x 4/179						
Sample B		478	58	12	14							12	12	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		448	13	3	5	0	CVPG	439	9,1	20%	351	527	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		520	34	6,6	7	0	CVPG	525	9,3	20%	420	630	7	
Other					2	0							0	
								1x 1/36, 1x 4/179						
(193) Ferritin	[µg/L]				20							20	20	100
Sample A		42,4	11	27	20							20	20	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		42,5	7	16	6	0	CVPG	46,8	0,99	±16,8	30	63,6	6	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		50,1	1,9	3,9	5	0	CVPG	53,4	0,62	±16,8	36,6	70,2	5	
Other					9	0							9	
								4x 4/12, 1x 4/162, 1x 4/179, 1x 6/1, 2x 6/60						
Sample B		339	92	27	20							20	20	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		422	72	17	6	0	CVPG	418	9,3	24%	317	519	6	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		353	20	5,8	5	0	CVPG	381	4,5	24%	289	473	5	
Other					9	0							9	
								4x 4/12, 1x 4/162, 1x 4/179, 1x 6/1, 2x 6/60						
(321) FSH	[U/L]				17							17	16	94
Sample A		15,8	1,1	7	17							17	16	94
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		16,3	0,57	3,5	5	0	CVPG	17,8	0,35	15%	15,1	20,5	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		15,5	1	6,7	7	0	CVPG	15,7	0,092	15%	13,3	18,1	7	
Other					5	0							5	
								1x 3/25, 4x 4/1						
Sample B		29,1	2,2	7,7	17							17	17	100
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		31	0,42	1,4	5	0	CVPG	32,8	0,58	15%	27,8	37,8	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche		28,7	1,1	3,9	7	0	CVPG	28,7	0,15	15%	24,3	33,1	7	
Other					5	0							5	
								1x 3/25, 4x 4/1						
(328) hGH	[mU/L]				7							7	6	86
Sample A					7							7	7	100
Other					7	0						7		
								1x 1/36, 2x 4/12, 2x 4/29, 2x 4/60						
Sample B					7							7	6	86
Other					7	0						7		
								1x 1/36, 2x 4/12, 2x 4/29, 2x 4/60						
(329) IGF-1	[µg/L]				4							4	2	50
Sample A					4							4	4	100
Other					4	0						4		
								1x 1/36, 2x 4/29, 1x 4/60						
Sample B					4							4	2	50
Other					4	0						4		
								1x 1/36, 2x 4/29, 1x 4/60						
(392) IGF-BP3	[µg/L]				1							0		
Sample A					1							0		
Other					1	0						0		
								1x 1/183						
Sample B					1							0		
Other					1	0						0		
								1x 1/183						
(325) Insulin	[mU/L]				10							9	8	89
Sample A					10							9	8	89
Other					10	0						9		
								1x 1/36, 3x 4/1, 2x 4/12, 3x 4/60, 1x 4/179						
Sample B					10							9	9	100
Other					10	0						9		
								1x 1/36, 3x 4/1, 2x 4/12, 3x 4/60, 1x 4/179						

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							AV	U _{AV}	D _{max}	LL	UL			
(326) Folate	[nmol/L]				20							20	18	90
Sample A		35,7	5,2	15	20							20	18	90
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		40,2	6,6	16	7	0	CVPG	41,5	1,1	27%	30,2	52,8	7	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		35,4	1,7	4,8	5	0	CVPG	35,9	2,2	27%	26,2	45,6	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche Other		32,2	2,4	7,6	7	0	CVPG	36,2	1	27%	26,4	46	7	
					1	0							1	
							1x 4/179							
Sample B		33,2	10	31	20							20	19	95
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		42,9	3,6	8,3	7	0	CVPG	43	0,5	27%	31,3	54,7	7	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		34,9	0,089	0,25	5	0	CVPG	33,6	0,55	27%	24,5	42,7	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche Other		23,8	2,4	10	7	0	CVPG	26,2	0,27	27%	19,1	33,3	7	
					1	0							1	
							1x 4/179							
(320) LH	[U/L]				17							17	16	94
Sample A		8,56	2	24	17							17	16	94
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		8,33	0,1	1,2	5	0	CVPG	8,06	0,15	15%	6,85	9,27	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche Other		10	0,86	8,6	7	0	CVPG	10,3	0,087	15%	8,75	11,9	7	
					5	0							5	
							1x 3/25, 4x 4/1							
Sample B		101	15	15	17							17	16	94
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		89,5	4,8	5,4	5	0	CVPG	87,6	1,3	15%	74,4	101	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche Other		110	9,9	9	7	0	CVPG	113	0,8	15%	96	130	7	
					5	0							5	
							1x 3/25, 4x 4/1							
(405) Parathyrin intact (PTH)	[pmol/L]				18							18	17	94
Sample A		0,51	0,26	50	18							18	17	94
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		0,265	0,052	20	6	0	CVPG	0,273	0,04 ±0,276		0	0,549	6	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche Other		0,685	0,11	16	8	0	CVPG	0,693	0,016 ±0,276	0,417	0,969	8		
					4	0						4		
							2x 4/1, 1x 4/29, 1x 4/179							
Sample B		34,5	8,3	24	18							18	17	94
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		34,3	1,4	4,1	6	0	CVPG	35,6	1	23%	27,4	43,8	6	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche Other		28	1,5	5,3	8	0	CVPG	28,3	0,21	23%	21,7	34,9	8	
					4	0						4		
							2x 4/1, 1x 4/29, 1x 4/179							
(322) Prolactin	[mU/L]				17							16	15	94
Sample A		199	36	18	17							16	15	94
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		177	25	14	5	0	CVPG	171	4,4	16%	143	199	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche Other		221	18	8,3	6	0	CVPG	218	1,8	16%	183	253	6	
					6	0						5		
							1x 1/36, 1x 3/25, 3x 4/1, 1x 4/179							
Sample B		365	59	16	17							16	15	94
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		337	6,1	1,8	5	0	CVPG	333	6,1	16%	279	387	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche Other		413	32	7,8	6	0	CVPG	397	2,8	16%	333	461	6	
					6	0						5		
							1x 1/36, 1x 3/25, 3x 4/1, 1x 4/179							
(390) Renin	[ng/L]				3							3	2	67
Sample A					3							3	2	67
Other					3	0						3		
							1x 2/66, 2x 4/164							
Sample B					3							3	2	67
Other					3	0						3		
							1x 2/66, 2x 4/164							
(394) SHBG	[nmol/L]				6							6	6	100
Sample A					6							6	6	100
Other					6	0						6		
							1x 4/1, 1x 4/12, 4x 4/60							
Sample B					6							6	6	100
Other					6	0						6		
							1x 4/1, 1x 4/12, 4x 4/60							

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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			
(327) Vitamin B₁₂	[pmol/L]				20							20	18	90
Sample A		264	58	22	20							20	18	90
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		266	34	13	7	0	CVPG	268	4,9	20%	214	322	7	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		184	37	20	5	0	CVPG	177	6	20%	141	213	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche Other		312	30	9,6	7	0	CVPG	294	2,2	20%	235	353	7	1
					1	0								
							1x 4/179							
Sample B		283	57	20	20							20	18	90
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (1) Abbott		273	18	6,5	7	0	CVPG	278	4,4	20%	222	334	7	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (12) Beckman Coulter		211	43	20	5	0	CVPG	206	5,5	20%	164	248	5	
(4) LIA (CLIA, CMIA, ECLIA, LOCI); (60) Roche Other		332	28	8,3	7	0	CVPG	317	2,4	20%	253	381	7	1
					1	0								
							1x 4/179							
(319) Vitamin B₁₂ (active)	[pmol/L]				6							6	6	100
Sample A												6	6	100
Other					6	0						6		
							4x 4/1, 2x 4/60							
Sample B												6	6	100
Other					6	0						6		
							4x 4/1, 2x 4/60							