Summary statistics - quantitative results

(Groups: measurement principle)

Filter: Slovakia, minimal size of groups n = 5

EQA round: AKS3/17 - Basic Clinical Chemistry - Serum

Dead line: 28.07.2017

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]	RoM	SD	CV [%]	N_{tot}	N_{out}	Comparability: AV	U_{AV}	D_{max}	LL	UL	N_{eva}	N_{suc}	S_{rel}	Traceability: AV	U_{AV}	D_{max}	LL	UL	N_{eva}	N_{suc}	S_{rel}
(1) Sodium	[mmol/L]				22							0								22	22	100%
Samples and groups																						
Sample A		131	2,6	2,0	22							0			CRV 130,7	2,0	5%	124	138	22	22	100%
(2) Indirect ISE		131	2,2	1,7	20	0														20		
Other					2	0														2		
															1x 3, 1x 99							
Sample B		139	2,1	1,5	22							0			CRV 139,1	2,1	5%	132	147	22	22	100%
(2) Indirect ISE		139	2,2	1,5	20	0														20		
Other					2	0														2		
															1x 3, 1x 99							
(2) Potassium	[mmol/L]				22							0								22	21	95%
Samples and groups																						
Sample A		6,74	0,23	3,4	22							0			CRV 6,766	0,10	8%	6,22	7,31	22	21	95%
(2) Indirect ISE		6,77	0,19	2,9	20	0														20		
Other					2	0														2		
															1x 3, 1x 99							
Sample B		3,93	0,08	2,3	22							0			CRV 3,876	0,058	8%	3,56	4,19	22	22	100%
(2) Indirect ISE		3,94	0,08	2,1	20	0														20		
Other					2	0														2		
															1x 3, 1x 99							
(3) Chloride	[mmol/L]				22							22	21	95%						0		
Samples and groups																						
Sample A		112	2,4	2,2	22		CVP 113	0,65	7%	105	121	22	21	95%						0		
(3) Indirect ISE		112	2,5	2,3	19	0						19										
Other					3	0						3										
							2x 2, 1x 4															
Sample B		122	2,2	1,8	22		CVP 123	0,76	7%	114	132	22	21	95%						0		
(3) Indirect ISE		122	2,4	1,9	19	0						19										
Other					3	0						3										
							2x 2, 1x 4															
(4) Calcium	[mmol/L]				21							0								21	21	100%
Samples and groups																						
Sample A		2,61	0,08	3,3	21							0			CRV 2,605	0,039	10%	2,34	2,87	21	21	100%
(3) Photom. with arsenazo III		2,58	0,11	4,1	12	0														12		
(4) Complex Ca-NM-BAPTA		2,63	0,03	1,1	5	0														5		
Other					4	0														4		
															4x 2							
Sample B		3,04	0,06	2,2	21							0			CRV 3,02	0,045	10%	2,71	3,33	21	21	100%
(3) Photom. with arsenazo III		3,02	0,08	2,9	12	0														12		
(4) Complex Ca-NM-BAPTA		3,04	0,02	0,73	5	0														5		
Other					4	0														4		
															4x 2							

Summary statistics - quantitative results

(Groups: measurement principle)

Filter: Slovakia, minimal size of groups n = 5

EQA round: AKS3/17 - Basic Clinical Chemistry - Serum

Dead line: 28.07.2017

Test	[unit]	RoM	SD	CV [%]	N_{tot}	N_{out}	Comparability								Traceability							
								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}
(5) Inorganic phosphate	[mmol/L]				20								20	20	100%						0		
Samples and groups																							
Sample A		1,70	0,03	2,0	20		CRV	1,7	0,013	10%	1,53	1,87	20	20	100%						0		
(1) UV-molybdate method		1,70	0,03	1,9	19	0							19										
Other					1	0							1										
							1x 2																
Sample B		1,97	0,03	1,5	20		CVP	1,97	0,013	10%	1,77	2,17	20	20	100%						0		
(1) UV-molybdate method		1,97	0,02	1,4	19	0							19										
Other					1	0							1										
							1x 2																
(6) Iron	[µmol/L]				20								20	20	100%						0		
Samples and groups																							
Sample A		23,2	0,94	4,0	20		CVP	23,1	0,22	15%	19,6	26,6	20	20	100%						0		
(2) Method with ferrozine/ferene		23,9	1,2	5,0	11	0							11										
(4) Method with TPTZ		22,7	0,44	2,0	9	0							9										
Sample B		29,5	0,96	3,3	20		CVP	29,5	0,23	15%	25	34	20	20	100%						0		
(2) Method with ferrozine/ferene		30,1	0,73	2,4	11	0							11										
(4) Method with TPTZ		28,8	0,62	2,1	9	0							9										
(7) Magnesium	[mmol/L]				21								0								21	20	95%
Samples and groups																							
Sample A		1,48	0,05	3,5	21								0			CRV	1,479	0,022	15%	1,25	1,71	21	20	95%
(2) Photometry		1,48	0,05	3,6	20	0																20		
Other					1	0																1		
																1x 4								
Sample B		1,96	0,07	3,8	21								0			CRV	1,97	0,030	15%	1,67	2,27	21	21	100%
(2) Photometry		1,96	0,07	4,0	20	0																20		
Other					1	0																1		
																1x 4								
(8) Lithium	[mmol/L]				5								0								5	5	100%
Samples and groups																							
Sample A		1,20	0,03	3,3	5								0			CRV	1,238	0,020	12%	1,08	1,39	5	5	100%
Other					5	0																5		
																1x 3, 4x 4								
Sample B		1,81	0,07	4,1	5								0			CRV	1,853	0,028	12%	1,63	2,08	5	5	100%
Other					5	0																5		
																1x 3, 4x 4								
(9) Total protein	[g/L]				23								0								23	23	100%
Samples and groups																							
Sample A		56,2	1,5	2,6	23								0			CRV	56,54	1,2	9%	51,4	61,7	23	23	100%
(1) Biuret		56,2	1,5	2,6	23	0																23		
Sample B		76,5	1,7	2,2	23								0			CRV	78,17	0,92	9%	71,1	85,3	23	23	100%
(1) Biuret		76,5	1,7	2,2	23	0																23		
(10) Albumin	[g/L]				20								20	20	100%						0		
Samples and groups																							
Sample A		35,9	1,5	4,1	20		CVP	35,9	0,37	12%	31,5	40,3	20	20	100%						0		
(1) BCG		35,9	1,5	4,1	20	0							20										
Sample B		48,6	1,3	2,7	20		CVP	48,9	0,36	12%	43	54,8	20	20	100%						0		

Summary statistics - quantitative results

(Groups: measurement principle)

Filter: Slovakia, minimal size of groups n = 5

EQA round: AKS3/17 - Basic Clinical Chemistry - Serum

Dead line: 28.07.2017

Test [unit]	RoM	SD	CV [%]	N_{tot}	N_{out}	Comparability	AV	U_{AV}	D_{max}	LL	UL	N_{eva}	N_{suc}	S_{rel}	Traceability	AV	U_{AV}	D_{max}	LL	UL	N_{eva}	N_{suc}	S_{rel}
(10) Albumin [g/L]				20								20	20	100%							0		
Samples and groups																							
Sample B	48,6	1,3	2,7	20		CVP	48,9	0,36	12%	43	54,8	20	20	100%							0		
(1) BCG	48,6	1,3	2,7	20	0							20											
(11) Osmolality [mmol/kg]				10								10	10	100%							0		
Samples and groups																							
Sample A	309	5,3	1,7	10		CVP	310	2,2	5%	294	326	10	10	100%							0		
(1) Osmometer	309	5,3	1,7	10	0							10											
Sample B	312	4,8	1,5	10		CVP	312	2,4	5%	296	328	10	10	100%							0		
(1) Osmometer	312	4,8	1,5	10	0							10											
(12) Lactate [mmol/L]				14								14	14	100%							0		
Samples and groups																							
Sample A	3,40	0,13	3,8	14		CVP	3,39	0,049	15%	2,88	3,9	14	14	100%							0		
(3) Photometric enzyme method	3,39	0,14	4,0	10	0							10											
Other				4	0							4											
Sample B	5,00	0,21	4,3	14		CVP	4,95	0,073	15%	4,2	5,7	14	14	100%							0		
(3) Photometric enzyme method	4,99	0,24	4,7	10	0							10											
Other				4	0							4											
(13) Bilirubin total [µmol/L]				22								0									22	22	100%
Samples and groups																							
Sample A	55,8	4,2	7,6	22								0			CRV	57,2	1,3	21%	45,1	69,3	22	22	100%
(2) DCA, DPD	56,2	3,9	7,0	21	0																21		
Other				1	0																1		
Sample B	72,3	5,2	7,2	22								0			CRV	76	1,7	21%	60	92	22	22	100%
(2) DCA, DPD	72,7	4,9	6,8	21	0																21		
Other				1	0																1		
(15) Cholesterol [mmol/L]				20								0									20	19	95%
Samples and groups																							
Sample A	3,51	0,10	3,0	20								0									20	20	100%
(1) Enzyme CHOD-PAP	3,51	0,10	3,0	20	0										CRV	3,685	0,037	9%	3,35	4,02	20		
Sample B	4,62	0,17	3,6	20								0									20	19	95%
(1) Enzyme CHOD-PAP	4,62	0,17	3,6	20	0										CRV	4,793	0,048	9%	4,36	5,23	20		
(16) Glucose [mmol/L]				22								0									22	22	100%
Samples and groups																							
Sample A	8,83	0,20	2,3	22								0			CRV	8,925	0,089	9%	8,12	9,73	22	22	100%
(1) GOD photometry	8,82	0,09	1,1	7	0																7		
(3) Method with hexokinase	8,88	0,27	3,0	15	0																15		
Sample B	11,8	0,26	2,2	22								0			CRV	12,04	0,12	9%	10,9	13,2	22	22	100%
(1) GOD photometry	11,9	0,19	1,6	7	0																7		
(3) Method with hexokinase	11,8	0,29	2,5	15	0																15		

2x 1, 2x 2

2x 1, 2x 2

1x 0

1x 0

Summary statistics - quantitative results

(Groups: measurement principle)

Filter: Slovakia, minimal size of groups n = 5

EQA round: AKS3/17 - Basic Clinical Chemistry - Serum

Dead line: 28.07.2017

Test / [unit]	RoM	SD	CV [%]	N_{tot}	N_{out}	Comparability: AV	U_{AV}	D_{max}	LL	UL	N_{eva}	N_{suc}	S_{rel}	Traceability:	AV	U_{AV}	D_{max}	LL	UL	N_{eva}	N_{suc}	S_{rel}
(17) Uric acid [µmol/L]				21							0									21	20	95%
Samples and groups																						
Sample A	252	10	4,0	21							0			CRV	256,2	2,6	12%	225	287	21	21	100%
(2) Enzyme-photomet. m.	252	10	4,0	21	0															21		
Sample B	313	12	3,8	21							0			CRV	316,5	3,2	12%	278	355	21	20	95%
(2) Enzyme-photomet. m.	313	12	3,8	21	0															21		
(18) Urea [mmol/L]				22							0									22	22	100%
Samples and groups																						
Sample A	25,4	0,90	3,5	22							0			CRV	26,26	0,26	15%	22,3	30,2	22	22	100%
(1) UV enzymatic m.(GMD)	25,4	0,90	3,5	22	0															22		
Sample B	9,98	0,34	3,4	22							0			CRV	10,09	0,100	15%	8,57	11,7	22	22	100%
(1) UV enzymatic m.(GMD)	9,98	0,34	3,4	22	0															22		
(19) Creatinine [µmol/L]				22							0									22	22	100%
Samples and groups																						
Sample A	500	15	3,0	22							0			CRV	511,5	5,1	15%	434	589	22	22	100%
(2) Jaffé without depro. (with corr.)	491	11	2,2	10	0															10		
(3) Enzyme	508	13	2,5	11	0															11		
Other				1	0															1		
														1x 1								
Sample B	148	7,6	5,2	22							0			CRV	151,1	1,5	15%	128	174	22	22	100%
(2) Jaffé without depro. (with corr.)	147	13	8,9	10	0															10		
(3) Enzyme	148	5,3	3,6	11	0															11		
Other				1	0															1		
														1x 1								
(20) Triglycerides [mmol/L]				20							0									20	20	100%
Samples and groups																						
Sample A	1,09	0,05	4,8	20							0			CRV	1,065	0,011	15%	0,905	1,23	20	20	100%
(1) GPO-PAP	1,09	0,05	4,8	20	0															20		
Sample B	1,95	0,05	3,0	20							0			CRV	2,03	0,020	15%	1,72	2,34	20	20	100%
(1) GPO-PAP	1,95	0,05	3,0	20	0															20		
(21) ALP [µkat/L]				21							7	7	100%							14	13	93%
Samples and groups																						
Sample A	3,30	0,49	15	21							7	7	100%							14	14	100%
(3) IFCC method	3,47	0,52	15	14	0									CRV	3,621	0,088	24%	2,75	4,49	14		
(3) IFCC method; (60) Roche	2,99	0,19	6,4	7	0	CVPG	2,93	0,055	18%	2,4	3,46	7										
Sample B	6,35	1,2	18	21							7	7	100%							14	13	93%
(3) IFCC method	6,78	1,2	18	14	0									CRV	6,886	0,16	24%	5,23	8,54	14		
(3) IFCC method; (60) Roche	5,51	0,22	3,9	7	0	CVPG	5,49	0,092	18%	4,5	6,48	7										
(22) alpha-amylase [µkat/L]				22							0									22	22	100%
Samples and groups																						
Sample A	5,14	0,21	4,1	22							0									22	22	100%
(1) IFCC method	5,14	0,21	4,1	22	0									CRV	5,246	0,14	15%	4,45	6,04	22		
Sample B	3,77	0,16	4,4	22							0									22	22	100%
(1) IFCC method	3,77	0,16	4,4	22	0									CRV	3,811	0,11	15%	3,23	4,39	22		

Summary statistics - quantitative results

(Groups: measurement principle)

Filter: Slovakia, minimal size of groups n = 5

EQA round: AKS3/17 - Basic Clinical Chemistry - Serum

Dead line: 28.07.2017

Test / [unit]	RoM	SD	CV [%]	N_{tot}	N_{out}	Comparability: AV	U_{AV}	D_{max}	LL	UL	N_{eva}	N_{suc}	S_{rel}	Traceability:	AV	U_{AV}	D_{max}	LL	UL	N_{eva}	N_{suc}	S_{rel}
(23) AST [µkat/L]				22							0									22	20	91%
Samples and groups																						
Sample A	1,71	0,10	6,0	22							0			CRV	1,804	0,040	15%	1,53	2,08	22	20	91%
(1) IFCC method	1,71	0,10	6,0	22	0															22		
Sample B	2,43	0,18	7,3	22							0			CRV	2,474	0,060	15%	2,1	2,85	22	20	91%
(1) IFCC method	2,43	0,18	7,3	22	0															22		
(24) ALT [µkat/L]				23							0									23	20	87%
Samples and groups																						
Sample A	3,95	0,17	4,2	23							0			CRV	4,094	0,090	15%	3,47	4,71	23	21	91%
(1) IFCC method	3,95	0,17	4,2	23	0															23		
Sample B	2,31	0,12	5,1	23							0			CRV	2,355	0,052	15%	2	2,71	23	21	91%
(1) IFCC method	2,31	0,12	5,1	23	0															23		
(26) CK [µkat/L]				21							0									21	20	95%
Samples and groups																						
Sample A	6,46	0,39	6,0	21							0			CRV	7,155	0,18	20%	5,72	8,59	21	20	95%
(1) IFCC method	6,46	0,39	6,0	21	0															21		
Sample B	8,20	0,47	5,7	21							0			CRV	8,705	0,21	20%	6,96	10,5	21	21	100%
(1) IFCC method	8,20	0,47	5,7	21	0															21		
(27) gamma-GT [µkat/L]				21							0									21	21	100%
Samples and groups																						
Sample A	2,81	0,16	5,5	21							0			CRV	2,877	0,072	15%	2,44	3,31	21	21	100%
(1) IFCC method	2,83	0,15	5,1	20	0															20		
Other				1	0									1x 99						1		
Sample B	3,11	0,18	5,6	21							0			CRV	3,181	0,078	15%	2,7	3,66	21	21	100%
(1) IFCC method	3,13	0,16	5,1	20	0															20		
Other				1	0									1x 99						1		
(28) LD [µkat/L]				20							0									20	19	95%
Samples and groups																						
Sample A	3,70	0,16	4,3	20							0			CRV	3,829	0,085	18%	3,13	4,52	20	19	95%
(3) IFCC method	3,70	0,16	4,3	20	0															20		
Sample B	5,14	0,25	4,8	20							0			CRV	5,039	0,11	18%	4,13	5,95	20	19	95%
(3) IFCC method	5,14	0,25	4,8	20	0															20		
(29) Lipase [µkat/L]				15							13	13	100%							0		
Samples and groups																						
Sample A	1,21	0,13	11	15							13	13	100%							0		
(1) Photometry; (58) Beckman Coulter (Olympus)	1,34	0,00	0,00	5	0	CVPG	1,37	0,052	24%	1,04	1,7	5										
(1) Photometry; (60) Roche	1,14	0,09	8,5	7	0	CVPG	1,15	0,044	24%	0,874	1,43	7										
Other				3	0							1										
						1x 1/12, 1x 1/85, 1x 1/178																
Sample B	2,34	0,38	16	15							13	13	100%							0		
(1) Photometry; (58) Beckman Coulter (Olympus)	2,66	0,03	1,1	5	0	CVPG	2,67	0,086	24%	2,02	3,32	5										
(1) Photometry; (60) Roche	2,09	0,22	10	7	0	CVPG	2,1	0,093	24%	1,59	2,61	7										

Summary statistics - quantitative results

(Groups: measurement principle)

Filter: Slovakia, minimal size of groups n = 5

EQA round: AKS3/17 - Basic Clinical Chemistry - Serum

Dead line: 28.07.2017

Test	[unit]	RoM	SD	CV [%]	N_{tot}	N_{out}	Comparability								Traceability							
								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}
(29) Lipase	[µkat/L]				15								13	13	100%						0		
Samples and groups																							
Sample B		2,34	0,38	16	15								13	13	100%						0		
Other					3	0	1x 1/12, 1x 1/85, 1x 1/178						1										
(30) Cholinesterase	[µkat/L]				13								13	13	100%						0		
Samples and groups																							
Sample A		103	3,1	3,0	13								13	13	100%						0		
(1) ECCLS method 37°C		103	3,1	3,0	13	0	CVP	103	1,3	12%	90,6	116	13										
Sample B		157	5,4	3,5	13								13	13	100%						0		
(1) ECCLS method 37°C		157	5,4	3,5	13	0	CVP	158	1,8	12%	139	177	13										
(31) Albumin (elpho)	[-]				8								8	7	88%						0		
Samples and groups																							
Sample A		0,601	0,09	16	8		CVP	0,615	0,017	15%	0,522	0,708	8	8	100%						0		
(1) Electrophoresis		0,601	0,09	16	8	0							8										
Sample B		0,623	0,07	13	8		CVP	0,615	0,021	15%	0,522	0,708	8	7	88%						0		
(1) Electrophoresis		0,623	0,07	13	8	0							8										
(32) gamma-globuline (elpho)	[-]				8								8	7	88%						0		
Samples and groups																							
Sample A		0,134	0,02	21	8		CVP	0,13	,0064	30%	0,091	0,169	8	8	100%						0		
(1) Electrophoresis		0,134	0,02	21	8	0							8										
Sample B		0,138	0,03	23	8		CVP	0,133	,0075	30%	0,093	0,173	8	7	88%						0		
(1) Electrophoresis		0,138	0,03	23	8	0							8										
(35) alpha-amylase pancreatic	[µkat/L]				11								11	11	100%						0		
Samples and groups																							
Sample A		4,44	0,11	2,4	11		CVP	4,52	0,052	10%	4,06	4,98	11	11	100%						0		
(1) With IFCC calibration		4,44	0,11	2,4	11	0							11										
Sample B		3,05	0,04	1,4	11		CVP	3,12	0,032	10%	2,8	3,44	11	11	100%						0		
(1) With IFCC calibration		3,05	0,04	1,4	11	0							11										
(36) Calcium ionised	[mmol/L]				4								4	4	100%						0		
Samples and groups																							
Sample A		1,67	0,08	5,3	4		CVP	1,74	0,026	10%	1,56	1,92	4	4	100%						0		
Other					4	0	4x 2						4										
Sample B		1,84	0,09	5,1	4		CVP	1,91	0,038	10%	1,71	2,11	4	4	100%						0		
Other					4	0	4x 2						4										