

Summary statistics - quantitative results

(Groups: measurement principle)

Filter: minimal size of the groups n = 5

Deadline: 23.07.2021

EQA round: AKS3/21 - Basic Clinical Chemistry - Serum

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 the 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}	
(1) Sodium					155							155	154	99%									0
Samples and groups	[mmol/L]																						
Sample A		132	2,1	1,6	155	CVP	132	0,41	4%	126	138	155	154	99%									0
(2) Indirect ISE		132	2,1	1,6	143	0						143											
(3) Direct ISE		132	2,6	2,0	11	0						11											
Other					1	0						1											
						1x 99																	
Sample B		119	2,2	1,8	155	CRV	119,7	0,43	5%	113	126	155	155	100%									0
(2) Indirect ISE		119	2,1	1,8	143	0						143											
(3) Direct ISE		120	3,0	2,5	11	0						11											
Other					1	0						1											
						1x 99																	
(2) Potassium					155							155	153	99%									0
Samples and groups	[mmol/L]																						
Sample A		5,77	0,11	1,8	155	CVP	5,77	0,021	6%	5,42	6,12	155	154	99%									0
(2) Indirect ISE		5,77	0,10	1,8	143	0						143											
(3) Direct ISE		5,75	0,16	2,8	11	0						11											
Other					1	0						1											
						1x 99																	
Sample B		4,34	0,09	2,2	155	CRV	4,322	0,065	7%	4,01	4,63	155	154	99%									0
(2) Indirect ISE		4,34	0,09	2,2	143	0						143											
(3) Direct ISE		4,35	0,10	2,4	11	0						11											
Other					1	0						1											
						1x 99																	
(3) Chloride					156							156	154	99%									0
Samples and groups	[mmol/L]																						
Sample A		115	2,8	2,4	156	CVP	115	0,55	7%	106	124	156	156	100%									0
(3) Indirect ISE		115	2,8	2,5	142	0						142											
(4) Direct ISE		116	2,9	2,5	11	0						11											
Other					3	0						3											
						2x 2, 1x 99																	
Sample B		97,5	3,3	3,3	156	CVP	97,5	0,64	7%	90,6	105	156	154	99%									0
(3) Indirect ISE		97,4	3,3	3,4	142	0						142											
(4) Direct ISE		99,2	1,6	1,6	11	0						11											
Other					3	0						3											
						2x 2, 1x 99																	
(4) Calcium					143							143	138	97%									0
Samples and groups	[mmol/L]																						
Sample A		3,41	0,08	2,4	143	CVP	3,41	0,017	7%	3,17	3,65	143	140	98%									0
(2) Phot. with o-cresolftalexon		3,45	0,06	1,9	15	0						15											
(3) Photom. with arsenazo III		3,38	0,09	2,7	78	0						78											

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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}	
(4) Calcium	[mmol/L]				143							143	138	97%									0
Samples and groups																							
Sample A		3,41	0,08	2,4	143	CVP	3,41	0,017	7%	3,17	3,65	143	140	98%									0
(4) Photomet. with NM-BAPTA		3,44	0,06	2,0	47	0						47											
Other					3	0						3											
Sample B		1,81	0,04	2,6	143	3x6 CRV	1,797	0,027	8%	1,65	1,95	143	141	99%									0
(2) Phot. with o-cresolftalexon		1,77	0,03	1,8	15	0						15											
(3) Photom. with arsenazo III		1,82	0,05	2,9	78	0						78											
(4) Photomet. with NM-BAPTA		1,80	0,03	1,9	47	0						47											
Other					3	0						3											
(5) Inorganic phosphate	[mmol/L]				138							138	136	99%									0
Samples and groups																							
Sample A		1,33	0,04	3,0	138	CVP	1,33	,0084	10%	1,19	1,47	138	137	99%									0
(1) UV-molybdate method		1,33	0,04	3,0	136	0						136											
Other					2	0						2											
Sample B		1,52	0,04	2,9	138	2x2 CVP	1,52	,0091	10%	1,36	1,68	138	137	99%									0
(1) UV-molybdate method		1,52	0,04	2,9	136	0						136											
Other					2	0						2											
(6) Iron	[µmol/L]				130							130	128	98%									0
Samples and groups																							
Sample A		42,9	0,95	2,2	130	CVP	42,9	0,20	15%	36,4	49,4	130	129	99%									0
(2) Method with ferrozine/ferene		42,9	0,98	2,3	107	0						107											
(4) Method with TPTZ		42,6	0,71	1,7	23	0						23											
Sample B		21,1	0,66	3,1	130	CVP	21,1	0,14	15%	17,9	24,3	130	129	99%									0
(2) Method with ferrozine/ferene		21,1	0,66	3,1	107	0						107											
(4) Method with TPTZ		20,9	0,70	3,4	23	0						23											
(7) Magnesium	[mmol/L]				132							132	131	99%									0
Samples and groups																							
Sample A		1,58	0,04	2,8	132	CVP	1,58	,0096	11%	1,4	1,76	132	131	99%									0
(2) Photometry		1,58	0,04	2,6	101	0						101											
(4) UV enzyme method		1,57	0,05	3,5	31	0						31											
Sample B		1,18	0,03	2,6	132	CRV	1,171	0,018	15%	0,995	1,35	132	132	100%									0
(2) Photometry		1,19	0,02	2,5	101	0						101											
(4) UV enzyme method		1,17	0,03	3,3	31	0						31											
(8) Lithium	[mmol/L]				20							20	17	85%									0
Samples and groups																							
Sample A		1,27	0,08	6,8	20	CVP	1,27	0,047	12%	1,11	1,43	20	18	90%									0
(4) Photometry		1,28	0,08	6,7	12	0						12											
Other					8	0						8											
Sample B		0,992	0,07	7,0	20	1x0,4x1,3x3 CRV	1,01	0,015	12%	0,888	1,14	20	19	95%									0
(4) Photometry		1,00	0,07	7,8	12	0						12											

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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}
(13) Bilirubin total					155									
Samples and groups	[µmol/L]													
Sample B		22,7	2,3	10	155									
(2) DCA, DPD		22,6	2,3	10	121	0		CRV	21,8	0,50	21%	17,2	26,4	155 151 97%
(4) Oxidation-reduction methods		23,9	1,5	6,3	12	0								121
														12
(15) Cholesterol					146									
Samples and groups	[mmol/L]													
Sample A		3,38	0,11	3,2	146									
(1) Enzyme method CHOD-PAP		3,39	0,10	3,0	142	0		CRV	3,438	0,034	9%	3,12	3,75	142 142 100%
Other					4	0								142
														0
														4x 1/149
Sample B		4,15	0,13	3,1	146									
(1) Enzyme method CHOD-PAP		4,16	0,13	3,0	142	0		CRV	4,187	0,042	9%	3,81	4,57	142 140 99%
Other					4	0								142
														0
														4x 1/149
(16) Glucose					156									
Samples and groups	[mmol/L]													
Sample A		5,79	0,16	2,8	156									
(1) GOD photometry		5,85	0,14	2,5	24	0		CRV	5,824	0,058	8%	5,35	6,29	156 155 99%
(3) Method with hexokinase		5,78	0,16	2,8	129	0								24
Other					3	0								129
														3
														3x 2
Sample B		13,5	0,38	2,8	156									
(1) GOD photometry		13,5	0,37	2,7	24	0		CRV	13,89	0,14	8%	12,7	15,1	156 155 99%
(3) Method with hexokinase		13,4	0,38	2,9	129	0								24
Other					3	0								129
														3
														3x 2
(17) Uric acid					152									
Samples and groups	[µmol/L]													
Sample A		612	20	3,3	152									
(2) Enzyme-photomet. m.		612	20	3,3	152	0		CRV	613	6,1	12%	539	687	152 152 100%
														152
Sample B		301	8,9	3,0	152									
(2) Enzyme-photomet. m.		301	8,9	3,0	152	0		CRV	305,5	3,1	12%	268	343	152 152 100%
														152
(18) Urea					156									
Samples and groups	[mmol/L]													
Sample A		14,8	0,53	3,6	156									
(1) UV enzymatic m.(GMD)		14,8	0,53	3,6	153	0		CRV	15,19	0,15	15%	12,9	17,5	156 153 98%
Other					3	0								153
														3
														3x 5
Sample B		5,10	0,23	4,5	156									
(1) UV enzymatic m.(GMD)		5,10	0,23	4,4	153	0		CRV	5,19	0,052	15%	4,41	5,97	156 154 99%
Other					3	0								153
														3
														3x 5
(19) Creatinine					157									
Samples and groups	[µmol/L]													
Sample A		144	6,0	4,1	157									
								CRV	143,5	1,4	13%	124	163	157 156 99%

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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}	
(24) ALT					155							0									155	142	92%
Samples and groups	[µkat/L]																						
Sample A		1,35	0,08	6,4	155							0	CRV	1,327	0,032	15%	1,12	1,53		155	150	97%	
(1) IFCC method		1,35	0,08	6,4	154	0														154			
Other					1	0														1			
Sample B		1,59	0,11	6,9	155							0	CRV	1,536	0,036	15%	1,3	1,77		155	142	92%	
(1) IFCC method		1,59	0,11	6,9	154	0														154			
Other					1	0														1			
													1x 99										
(26) CK					139							0									139	122	88%
Samples and groups	[µkat/L]																						
Sample A		4,31	0,38	8,9	139							0	CRV	4,75	0,17	20%	3,8	5,7		139	122	88%	
(1) IFCC method		4,31	0,38	8,9	139	0														139			
Sample B		3,26	0,18	5,4	139							0	CRV	3,407	0,089	20%	2,72	4,09		139	139	100%	
(1) IFCC method		3,26	0,18	5,4	139	0														139			
(27) gamma-GT					151							0									151	150	99%
Samples and groups	[µkat/L]																						
Sample A		3,49	0,15	4,2	151							0	CRV	3,466	0,088	15%	2,94	3,99		151	151	100%	
(1) IFCC method		3,49	0,15	4,2	151	0														151			
Sample B		1,64	0,06	3,8	151							0	CRV	1,696	0,044	15%	1,44	1,96		151	150	99%	
(1) IFCC method		1,64	0,06	3,8	151	0														151			
(28) LD					115							0									115	114	99%
Samples and groups	[µkat/L]																						
Sample A		7,52	0,22	3,0	115							0	CRV	7,43	0,17	18%	6,09	8,77		115	114	99%	
(3) IFCC method		7,52	0,22	2,9	114	0														114			
Other					1	0														1			
Sample B		6,67	0,21	3,2	115							0	CRV	6,59	0,16	18%	5,4	7,78		115	114	99%	
(3) IFCC method		6,67	0,21	3,1	114	0														114			
Other					1	0														1			
													1x 99										
(29) Lipase					79							53	52	98%							0		
Samples and groups	[µkat/L]																						
Sample A		1,59	0,20	13	79							53	53	100%							0		
(0) Not specified; (1) Abbott		1,69	0,15	8,6	11	0	CVPG	1,69	0,11	24%	1,28	2,1								11			
(0) Not specified; (58) Beckman Coulter (AU)		1,72	0,07	4,5	17	0	CVPG	1,72	0,046	24%	1,3	2,14								17			
(0) Not specified; (60) Roche		1,47	0,09	6,2	25	0	CVPG	1,47	0,045	24%	1,11	1,83								25			
Other					26	0														0			
Sample B		0,552	0,04	7,9	79							53	52	98%							0		
(0) Not specified; (1) Abbott		0,561	0,04	7,7	11	0	CVPG	0,561	0,032	24%	0,426	0,696								11			
(0) Not specified; (58) Beckman Coulter (AU)		0,541	0,02	4,9	17	0	CVPG	0,541	0,016	24%	0,411	0,671								17			
(0) Not specified; (60) Roche		0,537	0,02	4,5	25	0	CVPG	0,537	0,012	24%	0,408	0,666								25			
Other					26	0														0			

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(30) Cholinesterase	[µkat/L]				51							51	48	94%									0
Samples and groups																							
Sample A		118	5,3	4,4	51	CVP	118	1,8	12%	103	133	51	48	94%									0
(1) Standard method		118	5,3	4,4	51	0						51											
Sample B		127	5,5	4,3	51	CVP	127	1,9	12%	111	143	51	48	94%									0
(1) Standard method		127	5,5	4,3	51	0						51											
(31) Albumin (elpho)	[-]				34							34	34	100%									0
Samples and groups																							
Sample A		0,640	0,03	5,4	34	CVP	0,64	0,015	15%	0,544	0,736	34	34	100%									0
(0) Not specified		0,640	0,03	5,4	34	0						34											
Sample B		0,639	0,03	5,7	34	CVP	0,639	0,015	15%	0,543	0,735	34	34	100%									0
(0) Not specified		0,639	0,03	5,7	34	0						34											
(32) gamma-globuline (elpho)	[-]				34							34	34	100%									0
Samples and groups																							
Sample A		0,127	0,01	10	34	CVP	0,127	,0055	30%	0,088	0,166	34	34	100%									0
(0) Not specified		0,127	0,01	10	34	0						34											
Sample B		0,131	0,01	10	34	CVP	0,131	,0057	30%	0,091	0,171	34	34	100%									0
(0) Not specified		0,131	0,01	10	34	0						34											
(35) alpha-amylase pancreatic	[µkat/L]				60							60	60	100%									0
Samples and groups																							
Sample A		7,64	0,27	3,6	60	CVP	7,64	0,087	18%	6,26	9,02	60	60	100%									0
(1) With IFCC calibration		7,64	0,27	3,6	60	0						60											
Sample B		3,88	0,13	3,5	60	CVP	3,88	0,043	18%	3,18	4,58	60	60	100%									0
(1) With IFCC calibration		3,88	0,13	3,5	60	0						60											
(36) Calcium ionised	[mmol/L]				26							26	23	88%									0
Samples and groups																							
Sample A		2,28	0,07	3,3	26	CVP	2,28	0,036	10%	2,05	2,51	26	24	92%									0
(2) Direct ISE		2,29	0,05	2,6	22	0						22											
Other					4	0						4											
						2x 0, 2x 1																	
Sample B		1,05	0,03	3,0	26	CVP	1,05	0,015	10%	0,945	1,16	26	23	88%									0
(2) Direct ISE		1,05	0,02	2,4	22	0						22											
Other					4	0						4											
						2x 0, 2x 1																	

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End of report

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