

EQA round: AM1/25 - Basic Clinical Chemistry - Urine

Deadline: 4.4.2025

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

RoM = robust average	AV = assigned value	D _{max} = acceptable difference
SD = standard deviation	CVPG = consensus of the participants' groups	LL = lower limit
CV = coefficient of variation	CVP = consensus of all participants	UL = upper limit
N _{tot} = total number of the results	U _{AV} = expanded uncertainty of the assigned value (k = 2)	N _{eva} = number of the results assessed
N _{out} = number of the results removed before calculation		N _{suc} = number of successful results
		S _{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				
(71) Total protein	[g/L]				52							45	45	100	
Sample A		0,209	0,025	12	52							45	45	100	
(2) Pyrogallol red; (58) Beckman Coulter (AU)		0,22	0,007	3	14	0	CVPG 0,219	0,004	24%	0,166	0,272	14			
(4) Turbidimetry; (1) Abbott		0,222	0,009	4,2	10	0	CVPG 0,223	0,003	24%	0,169	0,277	10			
(4) Turbidimetry; (60) Roche		0,178	0,009	5,3	13	0	CVPG 0,184	0,003	24%	0,139	0,229	13			
Other					15	0						8			
							2x 1/1, 1x 1/12, 1x 1/58, 1x 1/60, 1x 1/162, 1x 2/12, 2x 2/60, 2x 2/75, 1x 2/149, 1x 2/178, 1x 2/179, 1x 4/77								
Sample B		0,585	0,079	13	52							45	45	100	
(2) Pyrogallol red; (58) Beckman Coulter (AU)		0,622	0,023	3,6	14	0	CVPG 0,625	0,01	24%	0,475	0,775	14			
(4) Turbidimetry; (1) Abbott		0,605	0,03	4,9	10	0	CVPG 0,621	0,005	24%	0,471	0,771	10			
(4) Turbidimetry; (60) Roche		0,49	0,021	4,2	13	0	CVPG 0,503	0,005	24%	0,382	0,624	13			
Other					15	0						8			
							2x 1/1, 1x 1/12, 1x 1/58, 1x 1/60, 1x 1/162, 1x 2/12, 2x 2/60, 2x 2/75, 1x 2/149, 1x 2/178, 1x 2/179, 1x 4/77								
(62) Potassium	[mmol/L]				52							52	52	100	
Sample A		30,8	0,79	2,6	52		CVP	31	0,12	15%	26,3	35,7	52	52	100
(2) Indirect ISE		30,8	0,78	2,5	49	0						49			
Other					3	0						3			
							3x 3								
Sample B		70,6	1,8	2,5	52		CVP	71,2	0,37	15%	60,5	81,9	52	52	100
(2) Indirect ISE		70,6	1,8	2,5	49	0						49			
Other					3	0						3			
							3x 3								
(65) Inorganic phosphate	[mmol/L]				52							52	52	100	
Sample A		8,39	0,32	3,8	52		CVP	8,38	0,06	18%	6,87	9,89	52	52	100
(1) UV-molybdate method		8,39	0,32	3,8	49	0						49			
Other					3	0						3			
							2x 2, 1x 3								
Sample B		16,4	0,61	3,7	52		CVP	16,4	0,11	18%	13,4	19,4	52	52	100
(1) UV-molybdate method		16,4	0,6	3,7	49	0						49			
Other					3	0						3			
							2x 2, 1x 3								
(70) Glucose	[mmol/L]				53							53	53	100	
Sample A		1,67	0,057	3,4	53		CVP	1,68	0,009	22%	1,31	2,05	53	53	100
(1) GOD photometry		1,71	0,067	3,9	7	0						7			
(3) Method with hexokinase		1,66	0,054	3,3	44	0						44			
Other					2	0						2			
							2x 2								
Sample B		16,3	0,34	2,1	53		CVP	16,4	0,055	22%	12,7	20,1	53	53	100
(1) GOD photometry		16,6	0,74	4,5	7	0						7			
(3) Method with hexokinase		16,3	0,32	2	44	0						44			
Other					2	0						2			
							2x 2								
(73) Magnesium	[mmol/L]				52							52	52	100	
Sample A		1,67	0,062	3,7	52		CVP	1,69	0,011	20%	1,35	2,03	52	52	100
(2) Photometry with coloured dyes		1,67	0,07	4,2	40	0						40			
(4) Enzymatic UV method		1,69	0,036	2,1	12	0						12			
Sample B		3,64	0,098	2,7	52		CVP	3,64	0,02	20%	2,91	4,37	52	52	100
(2) Photometry with coloured dyes		3,63	0,11	3	40	0						40			
(4) Enzymatic UV method		3,66	0,05	1,4	12	0						12			
(63) Chloride	[mmol/L]				52							52	51	98	
Sample A		91,5	4	4,4	52		CVP	91	0,7	14%	78,2	104	52	51	98
(3) Indirect ISE		91,3	4	4,4	48	0						48			
Other					4	0						4			
							1x 2, 3x 4								
Sample B		189	3,8	2	52		CVP	188	0,66	14%	161	215	52	52	100
(3) Indirect ISE		189	3,9	2,1	48	0						48			
Other					4	0						4			
							1x 2, 3x 4								
(68) Creatinine	[mmol/L]				52							52	52	100	
Sample A		5,44	0,24	4,4	52		CVP	5,52	0,034	16%	4,63	6,41	52	52	100
(1) Jaffe		5,42	0,25	4,5	24	0						24			
(3) Enzyme		5,46	0,24	4,3	28	0						28			

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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				
Sample B		12,3	0,56	4,6	52		CVP	12,4	0,072	16%	10,4	14,4	52	52	100
(1) Jaffe		12,2	0,55	4,5	24	0							24		
(3) Enzyme		12,4	0,59	4,8	28	0							28		
(69) Uric acid	[mmol/L]				51								51	51	100
Sample A													51	51	100
(0) Not specified		0,732	0,04	5,4	51	0	CVP	0,728	0,006	23%	0,56	0,896	51		
Sample B													51	51	100
(0) Not specified		1,18	0,052	4,4	51	0	CVP	1,18	0,009	23%	0,908	1,46	51		
(67) Urea	[mmol/L]				52								52	51	98
Sample A		154	8,3	5,4	52		CVP	155	1,1	17%	128	182	52	52	100
(1) UV enzymatic m.(GMD)		154	8,5	5,5	51	0							51		
Other					1	0							1		
							1x 2								
Sample B		249	13	5,2	52		CVP	250	1,7	17%	207	293	52	51	98
(1) UV enzymatic m.(GMD)		249	13	5,3	51	0							51		
Other					1	0							1		
							1x 2								
(66) Osmolality	[mmol/kg]				21								21	20	95
Sample A													21	20	95
(0) Not specified		439	3,1	0,7	21	0	CVP	439	0,84	4%	421	457	21		
Sample B													21	20	95
(0) Not specified		805	5,2	0,64	21	0	CVP	804	1,4	4%	771	837	21		
(72) pH	[-]				10								10	10	100
Sample A													10	10	100
(0) Not specified		6,25	0,19	3	10	0	CVP	6,26	0,072	5%	5,94	6,58	10		
Sample B													10	10	100
(0) Not specified		6,19	0,17	2,8	10	0	CVP	6,21	0,078	5%	5,89	6,53	10		
(61) Sodium	[mmol/L]				52								52	52	100
Sample A		79,7	1,4	1,7	52		CVP	80,2	0,25	11%	71,3	89,1	52	52	100
(2) Indirect ISE		79,6	1,3	1,6	49	0							49		
Other					3	0							3		
							3x 3								
Sample B		170	2	1,2	52		CVP	171	0,42	11%	152	190	52	52	100
(2) Indirect ISE		170	1,9	1,1	49	0							49		
Other					3	0							3		
							3x 3								
(64) Calcium	[mmol/L]				53								53	53	100
Sample A		1,82	0,075	4,1	53		CVP	1,83	0,011	18%	1,5	2,16	53	53	100
(2) Phot. with o-cresol.		1,79	0,07	3,9	10	0							10		
(3) Phot. with arsenazo		1,82	0,087	4,8	32	0							32		
(4) Photomet. with NM-BAPTA		1,84	0,038	2,1	11	0							11		
Sample B		2,66	0,12	4,4	53		CVP	2,66	0,017	18%	2,18	3,14	53	53	100
(2) Phot. with o-cresol.		2,65	0,091	3,4	10	0							10		
(3) Phot. with arsenazo		2,65	0,15	5,6	32	0							32		
(4) Photomet. with NM-BAPTA		2,7	0,058	2,2	11	0							11		