

EQA round: TDM1/25 - Therapeutic Drugs

Deadline: 25.4.2025

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	CVP = consensus of all participants	LL = lower limit
CV = coefficient of variation	U _{AV} = expanded uncertainty of the assigned value (k = 2)	UL = upper limit
N _{tot} = total number of the results		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				
Set 1															
(81) Digoxin	[µg/L]				15							15	13	87	
Sample A1		1,04	0,17	16	15		CVP	1,1	0,037	30%	0,77	1,43	15	13	87
(4) LIA, ILMA		0,945	0,27	29	7	0							7		
(6) Immunoturbidimetry, KIMS		1,11	0,074	6,7	5	0							5		
Other					3	0							3		
							3x 2								
Sample B1		1,64	0,24	15	15		CVP	1,68	0,042	30%	1,17	2,19	15	15	100
(4) LIA, ILMA		1,52	0,4	26	7	0							7		
(6) Immunoturbidimetry, KIMS		1,71	0,015	0,87	5	0							5		
Other					3	0							3		
							3x 2								
(84) Phenobarbital	[mg/L]				5							5	5	100	
Sample A1		18,6	1,1	5,9	5		CVP	19,1	0,79	20%	15,2	23	5	5	100
Other					5	0							5		
							1x 2, 1x 3, 2x 4, 1x 6								
Sample B1		14,9	0,98	6,6	5		CVP	14,9	0,54	20%	11,9	17,9	5	5	100
Other					5	0							5		
							1x 2, 1x 3, 2x 4, 1x 6								
(85) Phenytoin	[mg/L]				1							1	1	100	
Sample A1		23			1		CVP	23,1	0,71	20%	18,4	27,8	1	1	100
Other					1	0							1		
							1x 2								
Sample B1		21,1			1		CVP	20,1	0,65	20%	16	24,2	1	1	100
Other					1	0							1		
							1x 2								
(86) Carbamazepin	[mg/L]				9							9	8	89	
Sample A1		10,2	0,73	7,1	9		CVP	10,5	0,31	20%	8,4	12,6	9	8	89
(2) EIA (EMIT, CEDIA)		10,2	0,73	7,1	5	0							5		
Other					4	0							4		
							1x 4, 3x 6								
Sample B1		9,03	0,49	5,4	9		CVP	8,96	0,24	20%	7,16	10,8	9	8	89
(2) EIA (EMIT, CEDIA)		8,92	0,27	3,1	5	0							5		
Other					4	0							4		
							1x 4, 3x 6								
(88) Valproic acid	[mg/L]				13							13	10	77	
Sample A1		105	17	16	13		CVP	96,8	2	20%	77,4	117	13	10	77
(2) EIA (EMIT, CEDIA)		129	30	23	5	0							5		
(6) Immunoturbidimetry, KIMS		98,5	0,96	0,98	5	0							5		
Other					3	0							3		
							3x 4								
Sample B1		44,4	9,5	21	13		CVP	40,3	1,1	20%	32,2	48,4	13	10	77
(2) EIA (EMIT, CEDIA)		53,2	7,5	14	5	0							5		
(6) Immunoturbidimetry, KIMS		40,3	0,96	2,4	5	0							5		
Other					3	0							3		
							3x 4								
(91) Lithium	[mmol/L]				6							6	6	100	
Sample A1												6	6	100	
(5) Spectrophotometry		0,505	0,007	1,5	6	0	CVP	0,521	0,017	12%	0,458	0,584	6		
Sample B1												6	6	100	
(5) Spectrophotometry		0,615	0,022	3,6	6	0	CVP	0,62	0,016	12%	0,545	0,695	6		
(82) Theophylline	[mg/L]				3							3	3	100	
Sample A1		15,9	1,3	8,2	3		CVP	16,4	0,29	19%	13,2	19,6	3	3	100
Other					3	0							3		
							2x 2, 1x 4								
Sample B1		7,18	0,4	5,5	3		CVP	7,35	0,12	19%	5,95	8,75	3	3	100
Other					3	0							3		
							2x 2, 1x 4								
Set 2															
(89) Amicacin	[mg/L]				7							7	4	57	
Sample A2		20,7	7,7	37	7		CVP	23,2	0,9	20%	18,5	27,9	7	5	71
(2) EIA (EMIT, CEDIA)		22,6	4,9	22	5	0							5		
Other					2	0							2		
							2x 6								

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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 B2		7,57	1,4	18	7		CVP	7,06	0,26	20%	5,64	8,48	7	5	71
(2) EIA (EMIT, CEDIA)		7,47	1,2	17	5	0							5		
Other					2	0							2		
															2x 6
(90) Gentamicin	[mg/L]				12								12	10	83
Sample A2		11,3	2	18	12								12	10	83
(2) EIA (EMIT, CEDIA)		10,4	2,7	26	5	0	CVP	12,6	0,37	31%	8,69	16,6	5		
Other					7	0							7		
															4x 4, 2x 6, 1x 6/60
Sample B2		4,37	0,55	13	12								12	10	83
(2) EIA (EMIT, CEDIA)		5,5	1,8	32	5	0	CVP	4,27	0,13	31%	2,94	5,6	5		
Other					7	0							7		
															4x 4, 2x 6, 1x 6/60
(93) Methotrexate	[µmol/L]				4								4	4	100
Sample A2		0,158	0,026	16	4		CVP	0,168	0,01	30%	0,117	0,219	4	4	100
Other					4	0							4		
															1x 2, 3x 4
Sample B2		0,072	0,018	25	4		CVP	0,08	0,005	30%	0,056	0,104	4	4	100
Other					4	0							4		
															1x 2, 3x 4
(92) Vancomycin	[mg/L]				14								14	13	93
Sample A2		4,1	0,47	12	14		CVP	4,02	0,069	28%	2,89	5,15	14	13	93
(2) EIA (EMIT, CEDIA)		4,52	0,86	19	5	0							5		
(4) LIA, ILMA		4,01	0,1	2,6	5	0							5		
Other					4	0							4		
															1x 1, 3x 6
Sample B2		13,2	1,8	14	14		CVP	12,9	0,31	28%	9,28	16,6	14	13	93
(2) EIA (EMIT, CEDIA)		12,5	1,6	13	5	0							5		
(4) LIA, ILMA		14,1	0,3	2,1	5	0							5		
Other					4	0							4		
															1x 1, 3x 6