

## Summary statistics - quantitative results

(Groups: measurement principle)

Filter: minimal size of the groups n = 5

## EQA round: TDM1/22 - Therapeutic Drugs

Deadline: 29.04.2022

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 <sub>AV</sub> = expanded uncertainty of the assigned value (k = 2)	

Test	[unit]	Comparability						Traceability																
		RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>		
<b>Set 1</b>																								
<b>(81) Digoxin</b>	[µg/L]				133							0									133	129	97%	
Samples and groups																								
<b>Sample A1</b>		2,13	0,25	12	133							0		CRV	2,15	0,020	36%	1,37	2,93	133	132	99%		
(2) EIA (EMIT, CEDIA)		2,09	0,14	6,8	10	0															10			
(4) LIA, ILMA		2,13	0,34	16	68	0															68			
(6) Immunoturbidimetry, KIMS		2,15	0,14	6,3	50	0															50			
Other					5	0															5			
														3x 1, 2x 99										
<b>Sample B1</b>		1,02	0,18	18	133							0		CRV	1,03	0,0100	36%	0,659	1,41	133	130	98%		
(2) EIA (EMIT, CEDIA)		0,975	0,17	17	10	0															10			
(4) LIA, ILMA		1,01	0,23	23	68	0															68			
(6) Immunoturbidimetry, KIMS		1,04	0,11	11	50	1															50			
Other					5	0															5			
														3x 1, 2x 99										
<b>(87) Ethosuximide</b>	[mg/L]				8							8	7	88%							0			
Samples and groups																								
<b>Sample A1</b>		24,6	2,7	11	8	CVP	24,6	2,1	24%	18,6	30,6	8	7	88%							0			
Other					8	0						8												
						4x 3, 4x 5																		
<b>Sample B1</b>		90,1	14	16	8	CVP	90,1	11	24%	68,4	112	8	7	88%							0			
Other					8	0						8												
						4x 3, 4x 5																		
<b>(84) Phenobarbital</b>	[mg/L]				27							27	24	89%							0			
Samples and groups																								
<b>Sample A1</b>		8,99	1,0	11	27	CVP	8,99	0,47	20%	7,19	10,8	27	24	89%							0			
(1) FIA, FPIA, DELFIA		9,50	0,65	6,9	5	0						5												
(4) LIA, ILMA		8,99	0,68	7,6	10	0						10												
(6) Immunoturbidimetry, KIMS		9,40	2,2	24	7	0						7												
Other					5	0						5												
						2x 3, 3x 5																		
<b>Sample B1</b>		24,9	1,9	7,5	27	CVP	24,9	0,88	20%	19,9	29,9	27	26	96%							0			
(1) FIA, FPIA, DELFIA		24,8	0,82	3,3	5	0						5												
(4) LIA, ILMA		25,5	2,3	8,9	10	0						10												
(6) Immunoturbidimetry, KIMS		25,7	3,9	15	7	0						7												
Other					5	0						5												
						2x 3, 3x 5																		
<b>(85) Phenytoin</b>	[mg/L]				43							43	42	98%							0			
Samples and groups																								
<b>Sample A1</b>		3,91	0,34	8,6	43	CVP	3,91	0,13	20%	3,12	4,7	43	42	98%							0			

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Test	[unit]	Comparability					Traceability																
		RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	
<b>(85) Phenytoin</b>	[mg/L]				43							43	42	98%								0	
Samples and groups																							
<b>Sample A1</b>		3,91	0,34	8,6	43	CVP	3,91	0,13	20%	3,12	4,7	43	42	98%								0	
(1) FIA, FPIA, DELFIA		3,80	0,19	4,9	8	0						8											
(4) LIA, ILMA		3,94	0,36	9,2	14	0						14											
(6) Immunoturbidimetry, KIMS		3,90	0,39	10	13	0						13											
Other					8	0						8											
							3x 2, 3x 3, 2x 5																
<b>Sample B1</b>		9,56	0,68	7,1	43	CVP	9,56	0,26	20%	7,64	11,5	43	42	98%								0	
(1) FIA, FPIA, DELFIA		9,39	0,49	5,2	8	0						8											
(4) LIA, ILMA		9,41	0,92	9,8	14	0						14											
(6) Immunoturbidimetry, KIMS		9,73	0,82	8,4	13	0						13											
Other					8	0						8											
							3x 2, 3x 3, 2x 5																
<b>(86) Carbamazepin</b>	[mg/L]				63							63	58	92%								0	
Samples and groups																							
<b>Sample A1</b>		3,45	0,35	10	63	CVP	3,45	0,11	20%	2,76	4,14	63	59	94%								0	
(1) FIA, FPIA, DELFIA		3,65	0,15	4,1	8	0						8											
(2) EIA (EMIT, CEDIA)		3,47	0,59	17	8	0						8											
(4) LIA, ILMA		3,25	0,34	10	22	0						22											
(6) Immunoturbidimetry, KIMS		3,53	0,28	8,0	19	0						19											
Other					6	0						6											
							3x 3, 3x 5																
<b>Sample B1</b>		10,0	0,85	8,5	63	CVP	10	0,26	20%	8	12	63	59	94%								0	
(1) FIA, FPIA, DELFIA		10,8	0,66	6,2	8	0						8											
(2) EIA (EMIT, CEDIA)		10,2	1,1	11	8	0						8											
(4) LIA, ILMA		9,59	0,68	7,0	22	0						22											
(6) Immunoturbidimetry, KIMS		10,2	0,75	7,3	19	0						19											
Other					6	0						6											
							3x 3, 3x 5																
<b>(88) Valproic acid</b>	[mg/L]				87							87	84	97%								0	
Samples and groups																							
<b>Sample A1</b>		127	8,4	6,7	87	CVP	127	2,2	20%	101	153	87	86	99%								0	
(1) FIA, FPIA, DELFIA		128	2,6	2,0	15	0						15											
(2) EIA (EMIT, CEDIA)		128	9,0	7,0	16	0						16											
(4) LIA, ILMA		123	12	9,4	31	0						31											
(6) Immunoturbidimetry, KIMS		128	7,4	5,8	24	0						24											
Other					1	0						1											
							1x 99																
<b>Sample B1</b>		35,1	2,6	7,4	87	CVP	35,1	0,68	20%	28	42,2	87	85	98%								0	
(1) FIA, FPIA, DELFIA		35,0	0,92	2,6	15	0						15											
(2) EIA (EMIT, CEDIA)		36,2	3,0	8,2	16	0						16											
(4) LIA, ILMA		33,4	3,0	8,9	31	0						31											
(6) Immunoturbidimetry, KIMS		36,2	2,5	7,0	24	0						24											
Other					1	0						1											
							1x 99																

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Test	[unit]	Comparability										Traceability												
		RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>		
<b>(83) Primidone</b>					9							9	8	89%							0			
Samples and groups	[mg/L]																							
<b>Sample A1</b>		4,08	0,41	10	9	CVP	4,08	0,50	24%	3,1	5,06	9	8	89%							0			
Other					9	0						9												
<b>Sample B1</b>		9,56	0,80	8,4	9	CVP	9,56	0,99	24%	7,26	11,9	9	9	100%							0			
Other					9	0						9												
							1x 1, 4x 3, 4x 5																	
							1x 1, 4x 3, 4x 5																	
<b>(82) Theophylline</b>					84																84	80	95%	
Samples and groups	[mg/L]																							
<b>Sample A1</b>		18,3	1,4	7,6	84							0		CRV	18,39	0,18	24%	13,9	22,9	84	82	98%		
(1) FIA, FPIA, DELFIA		19,1	0,96	5,0	14	0															14			
(2) EIA (EMIT, CEDIA)		17,7	0,36	2,0	9	0															9			
(4) LIA, ILMA		17,4	2,1	12	27	0															27			
(6) Immunoturbidimetry, KIMS		18,6	0,89	4,8	34	0															34			
<b>Sample B1</b>		22,4	1,8	8,2	84							0		CRV	22,58	0,23	24%	17,1	28	84	81	96%		
(1) FIA, FPIA, DELFIA		23,3	1,1	4,5	14	0															14			
(2) EIA (EMIT, CEDIA)		21,9	1,3	6,1	9	0															9			
(4) LIA, ILMA		21,1	3,1	14	27	0															27			
(6) Immunoturbidimetry, KIMS		22,7	1,2	5,4	34	0															34			
<b>Set 2</b>																								
<b>(89) Amicacin</b>					37							37	35	95%							0			
Samples and groups	[mg/L]																							
<b>Sample A2</b>		35,6	3,0	8,3	37	CVP	35,6	1,2	20%	28,4	42,8	37	35	95%							0			
(1) FIA, FPIA, DELFIA		36,8	2,1	5,8	11	0						11												
(2) EIA (EMIT, CEDIA)		35,2	5,3	15	6	0						6												
(6) Immunoturbidimetry, KIMS		34,8	2,5	7,3	20	0						20												
<b>Sample B2</b>		9,50	0,74	7,8	37	CVP	9,5	0,30	20%	7,6	11,4	37	36	97%							0			
(1) FIA, FPIA, DELFIA		9,61	0,42	4,3	11	0						11												
(2) EIA (EMIT, CEDIA)		9,25	1,6	17	6	0						6												
(6) Immunoturbidimetry, KIMS		9,39	0,81	8,6	20	0						20												
<b>(90) Gentamicin</b>					67							67	65	97%							0			
Samples and groups	[mg/L]																							
<b>Sample A2</b>		9,11	1,8	19	67							67	65	97%							0			
(1) FIA, FPIA, DELFIA		8,47	0,68	8,0	14	0 CVP	9,6	0,36	31%	6,62	12,6	14												
(2) EIA (EMIT, CEDIA)		10,2	1,3	13	6	0 CVP	9,6	0,36	31%	6,62	12,6	6												
(4) LIA, ILMA		9,80	0,99	10	19	0 CVP	9,6	0,36	31%	6,62	12,6	19												
(6) Immunoturbidimetry, KIMS		10,1	0,54	5,3	16	0 CVP	9,6	0,36	31%	6,62	12,6	16												
(6) Immunoturbidimetry, KIMS; (60) Roche		6,32	0,52	8,2	12	0 CVP	6,32	0,37	21%	4,99	7,65	12												
<b>Sample B2</b>		6,74	1,2	18	67							67	66	99%							0			
(1) FIA, FPIA, DELFIA		6,20	0,29	4,7	14	0 CVP	7,11	0,28	31%	4,9	9,32	14												
(2) EIA (EMIT, CEDIA)		7,82	1,2	16	6	0 CVP	7,11	0,28	31%	4,9	9,32	6												
(4) LIA, ILMA		7,29	0,60	8,2	19	0 CVP	7,11	0,28	31%	4,9	9,32	19												
(6) Immunoturbidimetry, KIMS		7,45	0,41	5,4	16	0 CVP	7,11	0,28	31%	4,9	9,32	16												
(6) Immunoturbidimetry, KIMS; (60) Roche		4,95	0,37	7,4	12	0 CVP	4,95	0,26	21%	3,91	5,99	12												

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		RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	
<b>(93) Methotrexate</b>					11							11	9	82%									0
Samples and groups	[µmol/L]																						
<b>Sample A2</b>		2,18	0,28	13	11	CVP	2,18	0,20	30%	1,52	2,84	11	10	91%									0
(4) LIA, ILMA		2,21	0,31	14	9	0						9											
Other					2	0						2											
						2x2																	
<b>Sample B2</b>		1,20	0,15	12	11	CVP	1,2	0,11	30%	0,84	1,56	11	9	82%									0
(4) LIA, ILMA		1,17	0,10	8,9	9	0						9											
Other					2	0						2											
						2x2																	
<b>(92) Vankomycin</b>					69							69	68	99%									0
Samples and groups	[mg/L]																						
<b>Sample A2</b>		14,1	1,3	9,5	69	CVP	14,1	0,40	28%	10,1	18,1	69	69	100%									0
(1) FIA, FPIA, DELFIA		13,6	1,0	7,7	10	0						10											
(2) EIA (EMIT, CEDIA)		13,4	1,3	9,4	6	0						6											
(4) LIA, ILMA		14,8	1,2	8,0	26	0						26											
(6) Immunoturbidimetry, KIMS		14,0	1,2	8,4	27	0						27											
<b>Sample B2</b>		16,4	1,7	10	69	CVP	16,4	0,49	28%	11,8	21	69	68	99%									0
(1) FIA, FPIA, DELFIA		16,3	1,0	6,2	10	0						10											
(2) EIA (EMIT, CEDIA)		15,2	1,9	12	6	0						6											
(4) LIA, ILMA		17,3	1,4	7,9	26	0						26											
(6) Immunoturbidimetry, KIMS		16,0	1,5	9,3	27	0						27											

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End of report

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