

## Summary statistics - quantitative results

(Groups: measurement principle)

Filter: minimal size of groups n = 5

## EQA round: TDM1/18 - Therapeutic Drugs

Dead line: 13.04.2018

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 <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>	
<b>Set of samples 1</b>															
<b>(81) Digoxin</b>					125										
Samples and groups		[nmol/L]													
<b>Sample A1</b>		1,02	0,21	21	125										
(1) FIA, FPIA, DELFIA		1,03	0,11	11	6	0				CRV	1,018	,0100	36%	0,651	1,39
(2) EIA (EMIT, CEDIA)		1,01	0,24	24	8	0									
(4) LIA, ILMA		0,972	0,25	25	70	0									
(6) Immunoturbidimetry		1,09	0,14	13	41	0									
<b>Sample B1</b>		0,842	0,18	22	125										
(1) FIA, FPIA, DELFIA		0,845	0,08	9,6	6	0				CRV	0,846	,0085	36%	0,541	1,16
(2) EIA (EMIT, CEDIA)		0,810	0,25	31	8	0									
(4) LIA, ILMA		0,790	0,20	26	70	0									
(6) Immunoturbidimetry		0,923	0,12	13	41	0									
<b>(82) Theophylline</b>					88										
Samples and groups		[µmol/L]													
<b>Sample A1</b>		87,2	5,9	6,7	88										
(1) FIA, FPIA, DELFIA		90,7	3,0	3,3	15	0				CRV	88,1	0,88	24%	66,9	110
(2) EIA (EMIT, CEDIA)		85,6	5,6	6,6	9	0									
(4) LIA, ILMA		87,4	7,4	8,5	35	0									
(6) Immunoturbidimetry		85,7	4,7	5,5	28	0									
Other					1	0									
<b>Sample B1</b>		81,4	5,2	6,4	88										
(1) FIA, FPIA, DELFIA		83,7	2,0	2,4	15	0				CRV	80,99	0,81	24%	61,5	101
(2) EIA (EMIT, CEDIA)		81,2	8,9	11	9	1									
(4) LIA, ILMA		81,7	6,4	7,8	35	0									
(6) Immunoturbidimetry		80,3	4,8	5,9	28	0									
Other					1	0									
<b>(83) Primidone</b>					8										
Samples and groups		[µmol/L]													
<b>Sample A1</b>		19,2	4,1	22	8										
(3) HPLC, GC		17,7	0,37	2,1	5	0				CVP	19,2	3,2	24%	14,5	23,9
Other					3	0									
<b>Sample B1</b>		42,6	6,0	14	8										
(3) HPLC, GC		40,2	2,3	5,7	5	0				CVP	42,6	4,6	24%	32,3	52,9
Other					3	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>(84) Phenobarbital</b>					27							27	26	96%							0		
Samples and groups	[µmol/L]																						
<b>Sample A1</b>		70,3	4,4	6,3	27	CVP	70,3	2,1	20%	56,2	84,4	27	26	96%							0		
(1) FIA, FPIA, DELFIA		69,4	2,7	3,9	6	0						6											
(4) LIA, ILMA		71,0	3,5	4,9	10	0						10											
(6) Immunoturbidimetry		65,5	4,4	6,7	5	0						5											
Other					6	0						6											
<b>Sample B1</b>		97,7	4,2	4,3	27	CVP	97,7	2,0	20%	78,1	118	27	27	100%							0		
(1) FIA, FPIA, DELFIA		94,5	2,7	2,8	6	0						6											
(4) LIA, ILMA		98,8	3,7	3,7	10	0						10											
(6) Immunoturbidimetry		96,8	0,59	0,61	5	0						5											
Other					6	0						6											
<b>(85) Phenytoin</b>					46							46	46	100%							0		
Samples and groups	[µmol/L]																						
<b>Sample A1</b>		83,3	4,1	4,9	46	CVP	83,3	1,5	20%	66,6	100	46	46	100%							0		
(1) FIA, FPIA, DELFIA		86,0	3,0	3,5	9	0						9											
(4) LIA, ILMA		83,2	2,9	3,5	18	0						18											
(6) Immunoturbidimetry		82,6	6,6	7,9	13	0						13											
Other					6	0						6											
<b>Sample B1</b>		28,0	1,9	6,8	46	CVP	28	0,69	20%	22,4	33,6	46	46	100%							0		
(1) FIA, FPIA, DELFIA		28,8	0,72	2,5	9	0						9											
(4) LIA, ILMA		28,5	1,5	5,2	18	0						18											
(6) Immunoturbidimetry		27,2	2,4	8,8	13	0						13											
Other					6	0						6											
<b>(86) Carbamazepin</b>					64							64	63	98%							0		
Samples and groups	[µmol/L]																						
<b>Sample A1</b>		39,5	2,7	6,8	64	CVP	39,5	0,82	20%	31,6	47,4	64	63	98%							0		
(1) FIA, FPIA, DELFIA		40,3	1,2	2,9	9	0						9											
(2) EIA (EMIT, CEDIA)		40,9	3,6	8,9	9	0						9											
(4) LIA, ILMA		38,0	2,3	6,1	26	0						26											
(6) Immunoturbidimetry		39,8	2,3	5,8	16	0						16											
Other					4	0						4											
<b>Sample B1</b>		38,6	2,6	6,8	64	CVP	38,6	0,80	20%	30,8	46,4	64	64	100%							0		
(1) FIA, FPIA, DELFIA		38,8	1,2	3,1	9	0						9											
(2) EIA (EMIT, CEDIA)		39,4	2,9	7,3	9	0						9											
(4) LIA, ILMA		37,4	2,8	7,6	26	0						26											
(6) Immunoturbidimetry		39,1	2,2	5,5	16	0						16											
Other					4	0						4											
<b>(87) Ethosuximide</b>					8							8	8	100%							0		
Samples and groups	[µmol/L]																						
<b>Sample A1</b>		361	20	5,4	8	CVP	361	15	24%	274	448	8	8	100%							0		
(3) HPLC, GC		362	18	5,1	5	0						5											

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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>(87) Ethosuximide</b>					8							8	8	100%									0
Samples and groups	[µmol/L]																						
<b>Sample A1</b>		361	20	5,4	8		CVP	361	15	24%	274	448	8	8	100%								0
Other					3	0							3										
							1x 2, 2x 5																
<b>Sample B1</b>		301	27	9,1	8		CVP	301	21	24%	228	374	8	8	100%								0
(3) HPLC, GC		308	17	5,4	5	0							5										
Other					3	0							3										
							1x 2, 2x 5																
<b>(88) Valproic acid</b>					82								82	80	98%								0
Samples and groups	[µmol/L]																						
<b>Sample A1</b>		622	49	8,0	82		CVP	622	13	20%	497	747	82	81	99%								0
(1) FIA, FPIA, DELFIA		626	30	4,8	16	0							16										
(2) EIA (EMIT, CEDIA)		641	44	6,8	19	0							19										
(4) LIA, ILMA		599	52	8,7	34	0							34										
(6) Immunoturbidimetry		652	62	9,6	13	0							13										
<b>Sample B1</b>		279	28	10	82		CVP	279	7,6	20%	223	335	82	80	98%								0
(1) FIA, FPIA, DELFIA		277	9,4	3,4	16	0							16										
(2) EIA (EMIT, CEDIA)		294	24	8,1	19	0							19										
(4) LIA, ILMA		268	29	11	34	0							34										
(6) Immunoturbidimetry		289	36	12	13	0							13										
<b>Set of samples 2</b>																							
<b>(89) Amicacin</b>					30								30	27	90%								0
Samples and groups	[µmol/L]																						
<b>Sample A2</b>		32,0	2,2	7,0	30		CVP	32	1,00	20%	25,6	38,4	30	27	90%								0
(1) FIA, FPIA, DELFIA		32,3	1,3	4,0	8	0							8										
(6) Immunoturbidimetry		31,9	2,0	6,2	18	0							18										
Other					4	0							4										
							4x 2																
<b>Sample B2</b>		48,2	3,1	6,5	30		CVP	48,2	1,4	20%	38,5	57,9	30	28	93%								0
(1) FIA, FPIA, DELFIA		49,2	2,4	5,0	8	0							8										
(6) Immunoturbidimetry		48,1	2,5	5,2	18	0							18										
Other					4	0							4										
							4x 2																
<b>(90) Gentamicin</b>					55								55	51	93%								0
Samples and groups	[µmol/L]																						
<b>Sample A2</b>		7,66	0,88	11	55		CVP	7,66	0,29	31%	5,28	10,1	55	52	95%								0
(1) FIA, FPIA, DELFIA		7,88	0,46	5,8	12	0							12										
(2) EIA (EMIT, CEDIA)		7,55	0,78	10	5	0							5										
(4) LIA, ILMA		7,87	0,51	6,5	21	0							21										
(6) Immunoturbidimetry		7,01	2,0	28	16	0							16										
Other					1	0							1										
							1x 0																
<b>Sample B2</b>		15,6	2,9	19	55		CVP	15,6	0,97	31%	10,7	20,5	55	52	95%								0
(1) FIA, FPIA, DELFIA		14,8	1,6	11	12	0							12										
(2) EIA (EMIT, CEDIA)		14,6	1,2	8,4	5	0							5										
(4) LIA, ILMA		17,4	2,1	12	21	0							21										

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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>(90) Gentamicin</b>					55							55	51	93%									0
--- Samples and groups ---	[µmol/L]																						
<b>Sample B2</b>		15,6	2,9	19	55	CVP	15,6	0,97	31%	10,7	20,5	55	52	95%									0
(6) Immunoturbidimetry		14,3	3,9	27	16							16											
Other					1							1											
						1x 0																	
<b>(92) Vankomycin</b>					58							58	55	95%									0
--- Samples and groups ---	[µmol/L]																						
<b>Sample A2</b>		11,0	1,5	13	58	CVP	11	0,47	28%	7,92	14,1	58	56	97%									0
(1) FIA, FPIA, DELFIA		12,8	0,73	5,7	13							13											
(2) EIA (EMIT, CEDIA)		10,3	0,75	7,3	6							6											
(4) LIA, ILMA		10,4	1,3	12	28							28											
(6) Immunoturbidimetry		10,8	0,53	5,0	9							9											
Other					2							2											
						1x 0, 1x 99																	
<b>Sample B2</b>		28,8	4,0	14	58	CVP	28,8	1,3	28%	20,7	36,9	58	56	97%									0
(1) FIA, FPIA, DELFIA		34,0	1,0	3,0	13							13											
(2) EIA (EMIT, CEDIA)		27,1	1,3	5,0	6							6											
(4) LIA, ILMA		27,1	2,9	11	28							28											
(6) Immunoturbidimetry		27,7	1,9	6,8	9							9											
Other					2							2											
						1x 0, 1x 99																	
<b>(93) Methotrexate</b>					13							13	12	92%									0
--- Samples and groups ---	[µmol/L]																						
<b>Sample A2</b>		0,799	0,04	5,8	13	CVP	0,799	0,031	30%	0,559	1,04	13	12	92%									0
(4) LIA, ILMA		0,784	0,03	4,9	8							8											
Other					5							5											
						2x 2, 2x 5, 1x 6																	
<b>Sample B2</b>		2,79	0,40	14	13	CVP	2,79	0,27	30%	1,95	3,63	13	12	92%									0
(4) LIA, ILMA		2,76	0,30	11	8							8											
Other					5							5											
						2x 2, 2x 5, 1x 6																	

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End of report

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