LABQUALITY
External Quality Assessment Scheme

General clinical chemistry
Round 1, 2023

Specimens
Please find enclosed 2 human samples S001 and S002 each 3mL. Serum B (S001) is a human liquid serum, unprocessed, and serum C (S002) is a human liquid serum, processed. Both samples are ready for use. Lithium is available in sample S002.

Caution
Quality control specimens derived from human blood must be handled with the same care as patient samples, i.e., as potential transmitters of serious diseases. The specimens are found to be HBsAg, HCVAb and HIVAgAb negative when tested with licensed reagents, but no known test method can offer complete assurance that the specimens will not transmit these or other infectious diseases.

Parameters
Please see page 3.

Storage and use
If you are not able to analyze the samples on the arrival day, the samples should be transferred immediately to a refrigerator and stored in the dark. Let the samples reach ambient temperature. Invert the vials several times to ensure homogeneity. Open the vial carefully, immediately prior to analysis.

External quality assurance samples should be handled as routine samples. It is recommended that the first result is reported, handled and measured as a routine sample. It can, however, in special cases, e.g. if there are reference method values, be beneficial to perform several measurements to minimize random error, so knowledge is obtained about the accuracy of the test. It is recommended that the components listed below are analysed in duplicates, as they will have values assigned traceable to reference methods.

Albumine	Glucose	Phosphate	Triglycerides
Calcium	GT	Potassium	Transferrin
Cholesterol	Iron	Protein	Uric acid
Creatinine	Magnesium	Sodium	Urea

Result reporting
Please enter the results and methods via LabScala. Select Fill results Mainio from the first page of LabScala and then internet surveys to access the result form.

Corrections for creatinine determined with ABL Radiometer
Because ABL is designed to analyse whole blood, it is necessary to correct the result given by ABL 8X7 FLEX on creatinine as follows:
cCREA(corr.) µmol/L = 0,950*cCREA(determined) – 0,4 cCREA(determined) means that cCREA has been determined by ABL as if the EQA-sample had been a whole blood sample which it is not. In contrary it is a serum sample. Use the value determined by ABL in the formula, and report the corrected value to Labquality.

S001: LQ723523011 S002: LQ723523012

LQ723523011 LQ723523012

2023-02-06

INSTRUCTIONS

Product no. 2050
LQ723523011/DK, LQ723523012/NO

If the kit is incomplete or contains damaged specimens, please report immediately to info@labquality.fi

The results should be reported no later than **February 27, 2023**

Inquiries
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FINAS
Finnish Accreditation Service
PT02 (EN ISO/IEC 17043)

Only the analysis phase is accredited.

LABQUALITY

Lab. Name

Lab. no. 1 - 5

2050 General clinical chemistry serum B and C

SERUM B / C

Date of sample arrival:

Date of analysis:

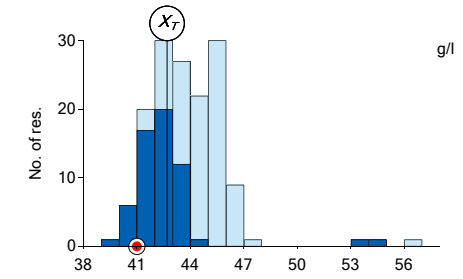
If you do several measurements please calculate the mean and mark it on the form.

Enquiries: Jonna Pelanti

5 - 7	Analyte	8 - 11	Result 15 19	Unit
	Na	0001	. X X	mmol/L
	K	0002	. X	mmol/L
	Cl	0003	. X X	mmol/L
	Lactate	0004	. X	mmol/L
	Creatinine	0005	. X X	µmol/L
	Urea	0006	. X	mmol/L
	Prot	0007	. X X	g/L
	Alb	0008	. X X	g/L
	Glucose	0009	. X	mmol/L
	Ca	0010	.	mmol/L
	Mg	0011	.	mmol/L
	P	0012	.	mmol/L
	Uric acid	0013	. X X	µmol/L
	Chol	0014	. X	mmol/L
	Trigly	0015	.	mmol/L
	Bil	0016	. X X	µmol/L
	ALP	0017	. X X	U/L
	Amyl	0018	. X X	U/L
	AST	0019	. X X	U/L
	ALT	0020	. X X	U/L
	CK	0021	. X X	U/L
	LD	0022	. X X	U/L
	Fe	0023	. X	µmol/L
	TIBC	0024	. X X	µmol/L
	Transf	0025	. X	g/L
	T3	0026	. X	nmol/L
	T4	0028	. X X	nmol/L
	Hapto	0029	.	g/L
	Cortisol	0030	. X X	nmol/L
	GT	0032	. X X	U/L
	TSH	0033	.	mU/L
	FT4	0034	. X	pmol/l
	Ferritin	0035	. X X	µg/L
	AmylP	0037	. X X	U/L
	Cu	0038	. X	µmol/L
	Se	0039	.	µmol/L
	Zn	0041	. X X	µmol/L
	IgA	0042	. X	g/L
	IgE	0043	. X X	kU/L
	IgG	0044	. X	g/L
	IgM	0045	. X	g/L
	Chol-HDL	0047	.	mmol/L
	Ca-Ion, actual	0049	.	mmol/L
	Osmol	0050	. X X	mosm/kg
	A1Glypr	0052	. X	g/L
	Antitry	0053	. X	g/L
	Ca-Ion, pH 7.4	0054	.	mmol/L
	Chol-LDL	0056	.	mmol/L
	Transf. Recep.	0060	. X	mg/l
	Lipaas	0067	.	U/l

Alb

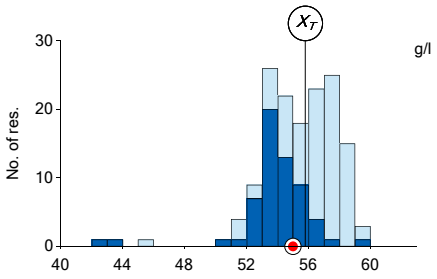
0008 | Dimension Vista 014 | Bromcresol purple 37 | Siemens Dimension 180



Own result 41 -4,0 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 43 g/l, X_T
Target limits (X ± 5%): 41 - 45 g/l

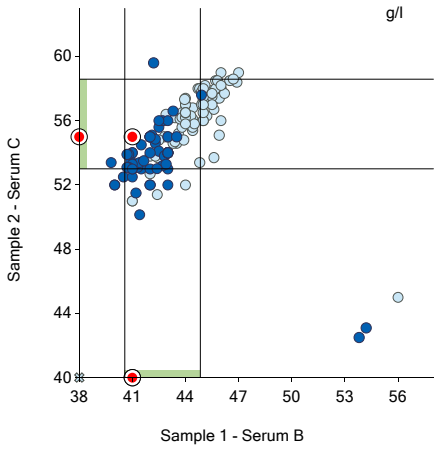
	x	s	u	CV%	n
Own group	42,0	1,1	0,2	2,5	59
All	43,5	2,0	0,2	4,5	149



Own result 55 -1,4 %
analysed: 13.2.2023

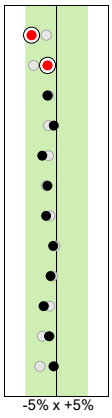
Sample 2 - Serum C
Assigned value (X): 56 g/l, X_T
Target limits (X ± 5%): 53 - 59 g/l

	x	s	u	CV%	n
Own group	53,8	1,4	0,2	2,6	59
All	55,3	2,3	0,2	4,2	149

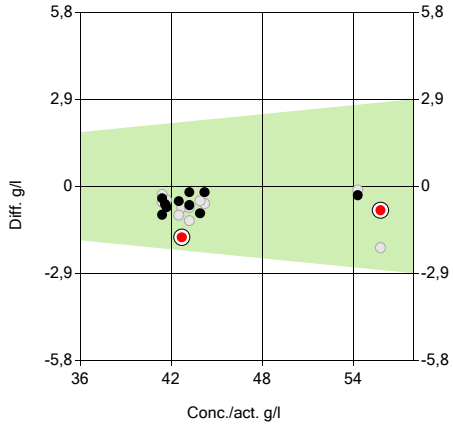


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 37	43	41	-4,0	-0,9
23/01	SeL 37	56	55	-1,4	0,9
22/06	DdA 37	42	41	-1,4	-0,1
22/06	InB 37	44	44	-0,5	0,3
22/05	DeZ 37	41	40	-2,3	-0,4
22/05	InA 37	43	43	-1,5	0,1
22/04	DDD 37	42	41	-1,7	-0,3
22/04	SeL 37	54	54	-0,6	-0,2
22/03	DdA 37	41	41	-1,0	-0,1
22/03	InB 37	44	43	-2,1	-0,4
22/02	DeQ 37	43	42	-1,2	0,4
22/02	InA 37	43	43	-0,5	0,9
22/01	DeK 37	42	41	-1,4	0,1



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

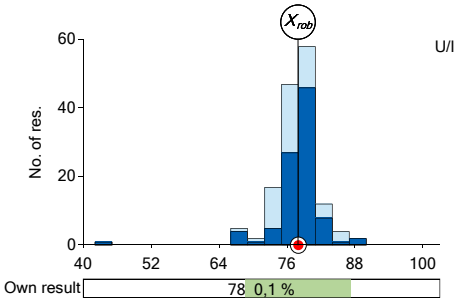
The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

ALP

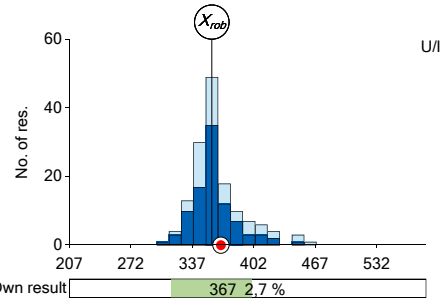
0017 | Dimension Vista 014 | IFCC comparable methods (AMP) 23 | Siemens Dimension 180



Own result 78 0,1 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 78 U/l, X_{rob}
Target limits (X ± 12%): 69 - 87 U/l

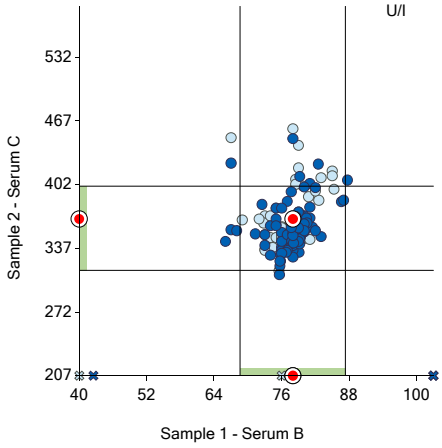
	x	s	u	CV%	n
Own group	78,0	2,5	0,3	3,2	95
All	77,5	3,0	0,3	3,9	148



Own result 367 2,7 %
analysed: 13.2.2023

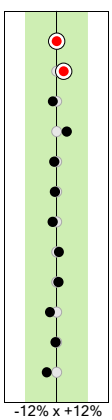
Sample 2 - Serum C
Assigned value (X): 357 U/l, X_{rob}
Target limits (X ± 12%): 314 - 400 U/l

	x	s	u	CV%	n
Own group	357,4	18,8	2,4	5,3	94
All	359,7	20,8	2,2	5,8	146

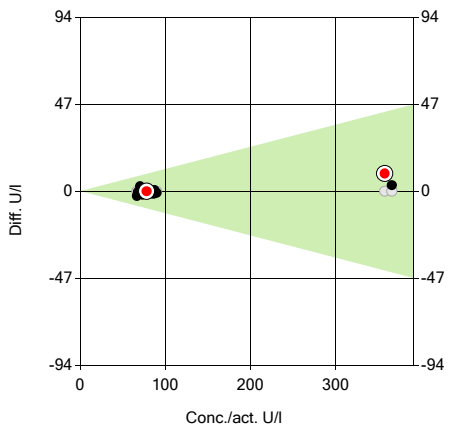


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 23	78	78	0,1	0,0
23/01	SeL 23	357	367	2,7	0,5
22/06	DdA 23	86	85	-1,5	-0,5
22/06	InB 23	70	73	3,9	0,8
22/05	DeZ 23	90	89	-0,9	-0,3
22/05	InA 23	68	67	-0,6	-0,2
22/04	DDD 23	83	82	-1,5	-0,4
22/04	SeL 23	366	369	0,9	0,2
22/03	DdA 23	87	88	0,7	0,2
22/03	InB 23	73	71	-2,6	-0,7
22/02	DeQ 23	87	87	-0,4	-0,1
22/02	InA 23	67	64	-3,8	-0,8
22/01	DeK 23	75	74	-1,6	-0,4



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

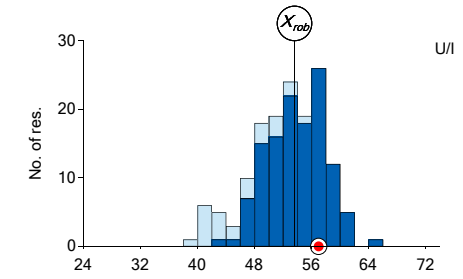
The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Sample 2 - Serum C, Own group:

The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

ALT

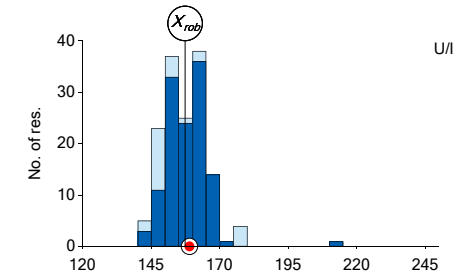
0020 | Dimension Vista | 014 | IFCC comparable methods | 6 | Siemens Dimension | 180



Own result 57 6,3 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 54 U/l, X_{rob}
Target limits (X ± 12%): 47 - 60 U/l

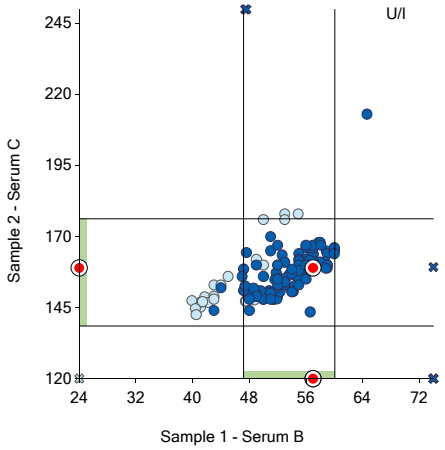
	x	s	u	CV%	n
Own group	53,6	4,1	0,5	7,7	124
All	52,6	4,8	0,5	9,1	149



Own result 159 1,0 %
analysed: 13.2.2023

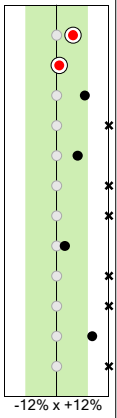
Sample 2 - Serum C
Assigned value (X): 157 U/l, X_{rob}
Target limits (X ± 12%): 138 - 176 U/l

	x	s	u	CV%	n
Own group	157,4	6,9	0,8	4,4	125
All	156,6	7,6	0,8	4,9	150

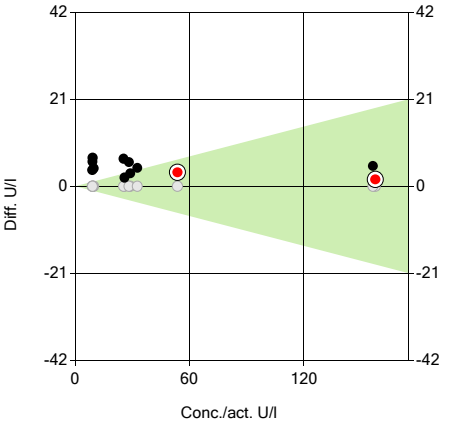


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 6	54	57	6,3	0,8
23/01	SeL 6	157	159	1,0	0,2
22/06	DdA 6	29	32	10,8	1,3
22/06	InB 6	10	14	44,8	2,8
22/05	DeZ 6	26	28	8,0	0,8
22/05	InA 6	9	13	43,5	1,9
22/04	DDD 6	25	32	26,1	3,2
22/04	SeL 6	156	161	3,1	0,8
22/03	DdA 6	28	34	20,7	2,5
22/03	InB 6	9	16	75,2	4,1
22/02	DeQ 6	33	37	13,6	1,4
22/02	InA 6	9	15	65,7	2,8
22/01	DeK 6	27	34	25,0	2,2



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

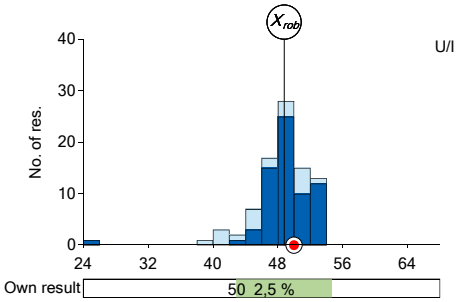
The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Sample 2 - Serum C, Own group:

The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Amyl

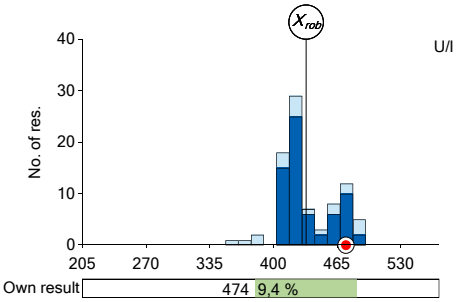
0018 | Dimension Vista | 014 | IFCC comparable methods | 7 | Siemens Dimension Vista System | 805



Own result 50 2,5 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 49 U/l, X_{rob}
Target limits (X ± 12%): 43 - 55 U/l

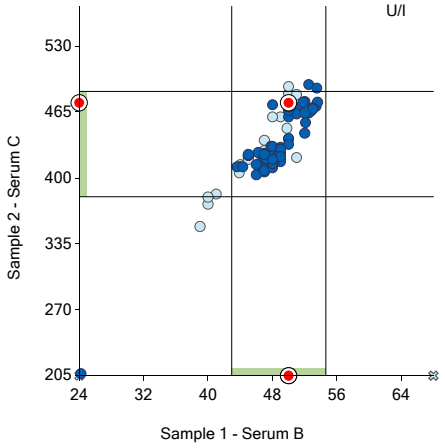
	x	s	u	CV%	n
Own group	48,8	2,5	0,4	5,2	67
All	48,4	2,9	0,4	6,1	87



Own result 474 9,4 %
analysed: 13.2.2023

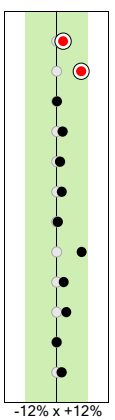
Sample 2 - Serum C
Assigned value (X): 433 U/l, X_{rob}
Target limits (X ± 12%): 381 - 485 U/l

	x	s	u	CV%	n
Own group	433,2	27,0	4,1	6,2	67
All	433,1	29,8	4,0	6,9	87

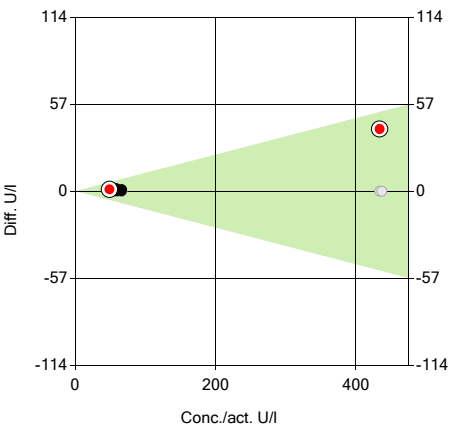


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 7	49	50	2,5	0,5
23/01	SeL 7	433	474	9,4	1,5
22/06	DdA 7	60	60	0,2	0,0
22/06	InB 7	58	60	2,3	0,5
22/05	DeZ 7	67	67	1,3	0,3
22/05	InA 7	66	68	2,0	0,5
22/04	DDD 7	54	54	0,5	0,1
22/04	SeL 7	436	478	9,5	1,6
22/03	DdA 7	59	61	2,7	0,7
22/03	InB 7	58	60	3,7	0,8
22/02	DeQ 7	66	66	0,0	0,0
22/02	InA 7	66	67	1,9	0,5
22/01	DeK 7	87	88	0,8	0,2



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

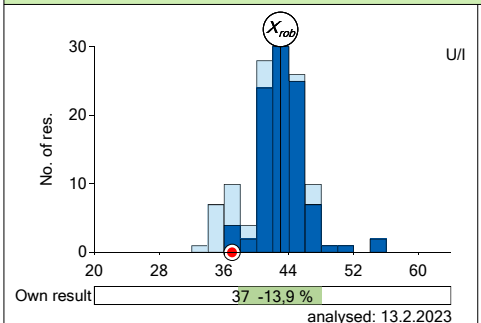
The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Sample 2 - Serum C, Own group:

The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

AST

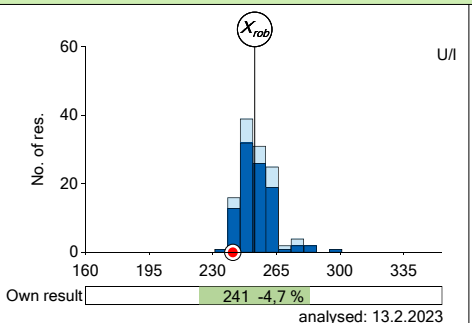
0019	Dimension Vista	IFCC comparable methods	Siemens Dimension
	014	6	180



Own result 37 -13,9 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 43 U/l, X_{rob}
Target limits (X ± 12%): 38 - 48 U/l

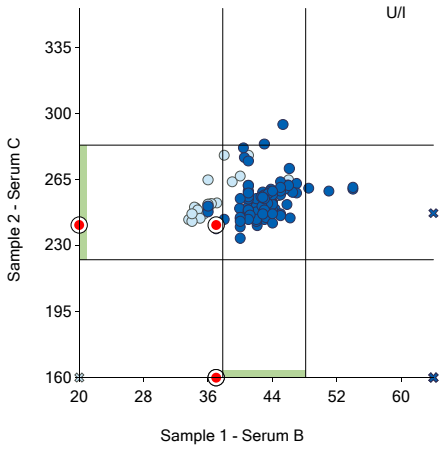
	x	s	u	CV%	n
Own group	43,0	2,3	0,3	5,4	96
All	42,2	3,3	0,4	7,8	120



Own result 241 -4,7 %
analysed: 13.2.2023

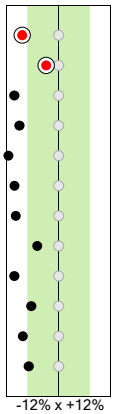
Sample 2 - Serum C
Assigned value (X): 253 U/l, X_{rob}
Target limits (X ± 12%): 223 - 283 U/l

	x	s	u	CV%	n
Own group	253,0	7,7	1,0	3,1	97
All	253,4	8,1	0,9	3,2	121

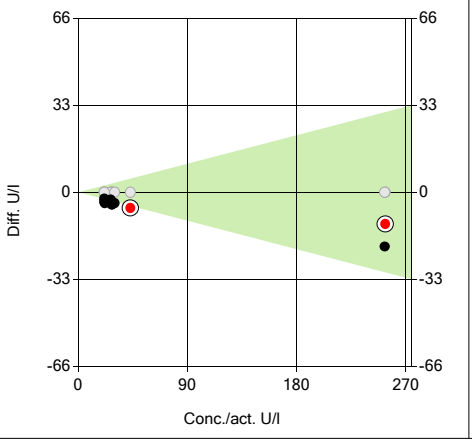


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 6	43	37	-13,9	-2,6
23/01	SeL 6	253	241	-4,7	-1,6
22/06	DdA 6	28	23	-16,9	-2,0
22/06	InB 6	27	23	-15,0	-1,8
22/05	DeZ 6	22	18	-19,2	-2,0
22/05	InA 6	21	18	-16,9	-1,2
22/04	DDD 6	27	23	-16,4	-2,0
22/04	SeL 6	253	232	-8,1	-2,4
22/03	DdA 6	28	23	-16,9	-2,0
22/03	InB 6	27	24	-10,4	-1,3
22/02	DeQ 6	30	26	-13,7	-1,4
22/02	InA 6	21	19	-11,4	-0,7
22/01	DeK 6	36	31	-12,7	-1,4



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

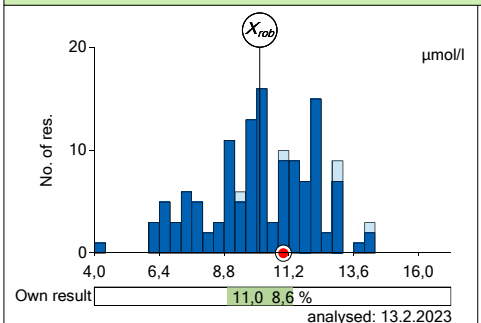
The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Sample 2 - Serum C, Own group:

The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Bil

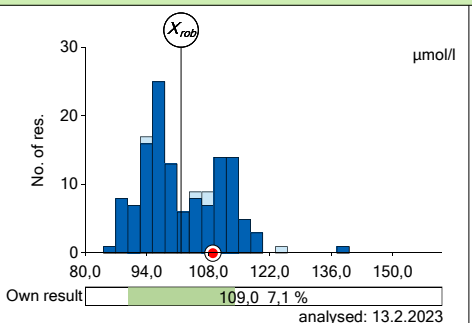
0016	Dimension Vista	Photometry	Siemens Dimension
	014	1	180



Own result 11,0 8,6 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 10,1 µmol/l, X_{rob}
Target limits (X ± 12%): 8,9 - 11,3 µmol/l

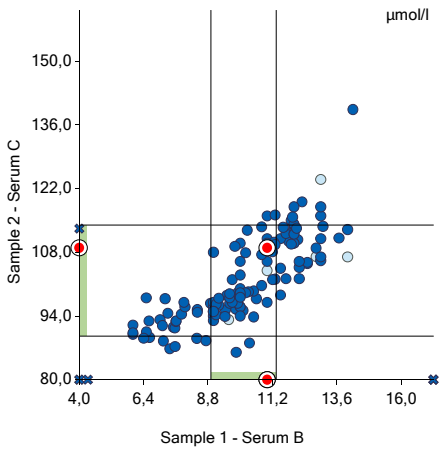
	x	s	u	CV%	n
Own group	10,13	2,04	0,22	20,1	128
All	10,20	2,06	0,22	20,2	133



Own result 109,0 7,1 %
analysed: 13.2.2023

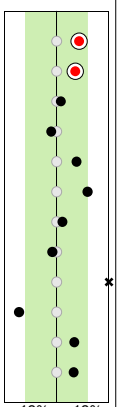
Sample 2 - Serum C
Assigned value (X): 101,7 µmol/l, X_{rob}
Target limits (X ± 12%): 89,5 - 114,0 µmol/l

	x	s	u	CV%	n
Own group	101,75	9,70	1,07	9,5	128
All	101,90	9,70	1,05	9,5	133

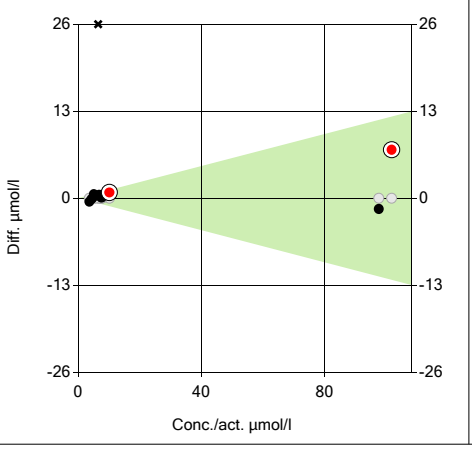


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 1	10,1	11,0	8,6	0,4
23/01	SeL 1	101,7	109,0	7,1	0,7
22/06	DdA 1	7,7	7,8	1,6	0,1
22/06	InB 1	4,4	4,3	-2,1	-0,1
22/05	DeZ 1	6,8	7,3	7,6	0,4
22/05	InA 1	5,1	5,7	11,8	0,4
22/04	DDD 1	7,4	7,6	2,2	0,1
22/04	SeL 1	97,6	96,0	-1,6	-0,2
22/03	DdA 1	6,5	83,0	1176,	58,5
22/03	InB 1	3,6	3,1	-14,3	-0,6
22/02	DeQ 1	7,8	8,3	6,8	0,3
22/02	InA 1	5,4	5,8	6,5	0,2
22/01	DeK 1	7,0	7,2	3,0	0,1



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

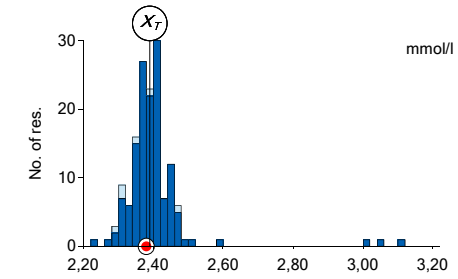
The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Sample 2 - Serum C, Own group:

The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Ca

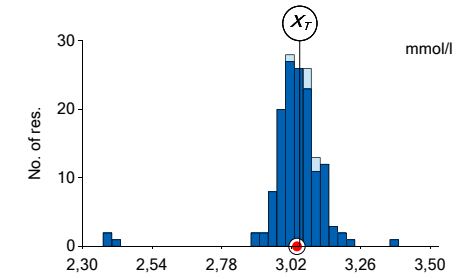
0010 | Dimension Vista | 014 | Photometry | 1 | Siemens Dimension | 180



Own result 2,38 -0,4 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 2,39 mmol/l, X_T
Target limits (X ± 3%): 2,32 - 2,46 mmol/l

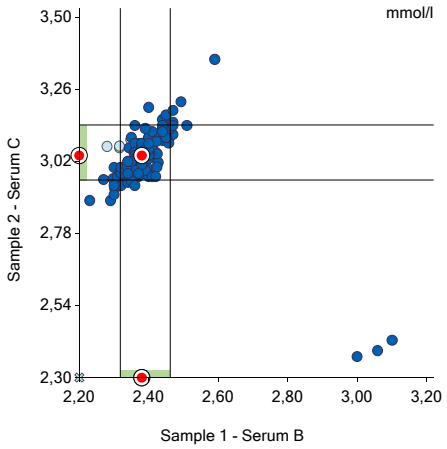
	x	s	u	CV%	n
Own group	2,386	0,046	0,005	1,9	141
All	2,384	0,048	0,005	2,0	147



Own result 3,04 -0,3 %
analysed: 13.2.2023

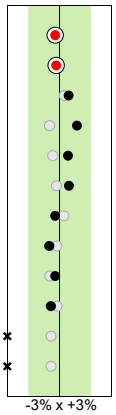
Sample 2 - Serum C
Assigned value (X): 3,05 mmol/l, X_T
Target limits (X ± 3%): 2,96 - 3,14 mmol/l

	x	s	u	CV%	n
Own group	3,038	0,065	0,007	2,1	141
All	3,040	0,064	0,007	2,1	147

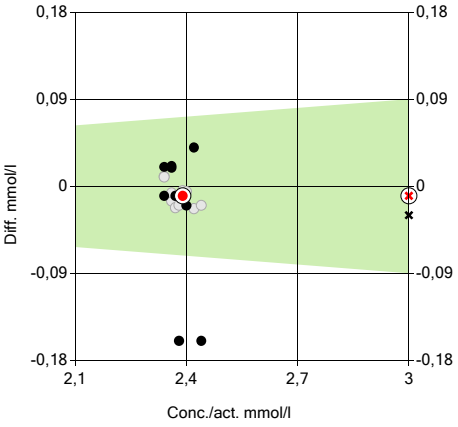


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 1	2,39	2,38	-0,4	-0,1
23/01	SeL 1	3,05	3,04	-0,3	0,0
22/06	DdA 1	2,34	2,36	0,9	0,2
22/06	InB 1	2,42	2,46	1,7	1,5
22/05	DeZ 1	2,36	2,38	0,8	0,7
22/05	InA 1	2,36	2,38	0,9	0,6
22/04	DDD 1	2,34	2,33	-0,4	-0,4
22/04	SeL 1	3,05	3,02	-1,0	-0,4
22/03	DdA 1	2,37	2,36	-0,4	0,3
22/03	InB 1	2,40	2,38	-0,8	-0,3
22/02	DeQ 1	2,44	2,28	-6,6	-2,5
22/02	InA 1	2,38	2,22	-6,7	-2,5
22/01	DeK 1	2,42	2,38	-1,7	-0,5



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

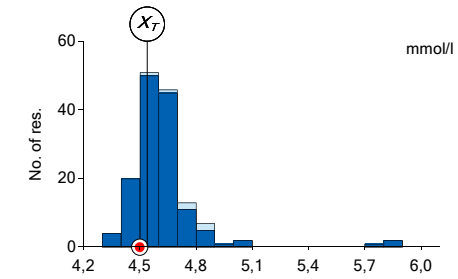
The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Chol

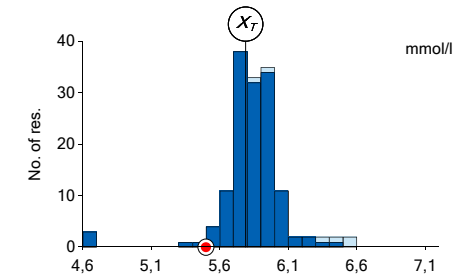
0014 | Dimension Vista | 014 | Photometry, enzymatic | 2 | Siemens Dimension | 180



Own result 4,5 -0,9 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 4,5 mmol/l, X_T
Target limits (X ± 5%): 4,3 - 4,8 mmol/l

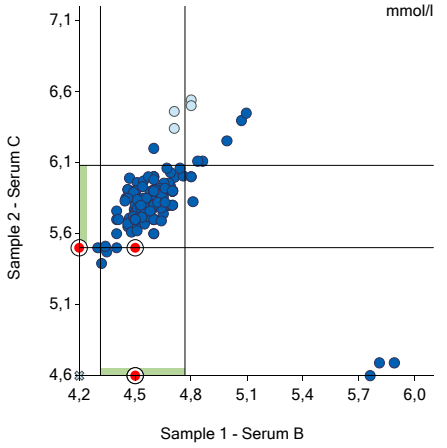
	x	s	u	CV%	n
Own group	4,58	0,10	0,01	2,2	141
All	4,58	0,10	0,01	2,3	147



Own result 5,5 -5,0 %
analysed: 13.2.2023

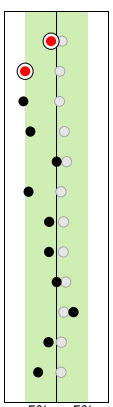
Sample 2 - Serum C
Assigned value (X): 5,8 mmol/l, X_T
Target limits (X ± 5%): 5,5 - 6,1 mmol/l

	x	s	u	CV%	n
Own group	5,82	0,14	0,01	2,4	141
All	5,83	0,14	0,01	2,5	147

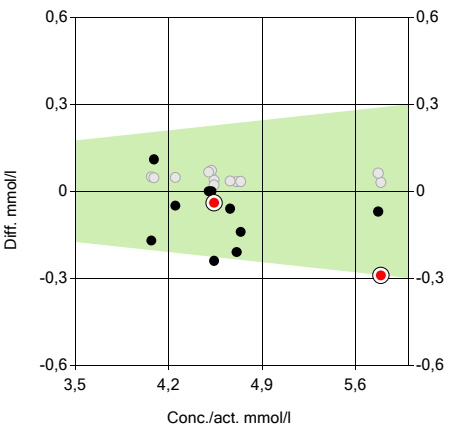


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 2	4,5	4,5	-0,9	-0,8
23/01	SeL 2	5,8	5,5	-5,0	-2,3
22/06	DdA 2	4,5	4,3	-5,3	-2,1
22/06	InB 2	4,1	3,9	-4,2	-1,7
22/05	DeZ 2	4,5	4,5	0,0	-0,6
22/05	InA 2	4,7	4,5	-4,5	-1,5
22/04	DDD 2	4,3	4,2	-1,2	-0,8
22/04	SeL 2	5,8	5,7	-1,2	-1,0
22/03	DdA 2	4,5	4,5	0,0	-0,5
22/03	InB 2	4,1	4,2	2,7	0,5
22/02	DeQ 2	4,7	4,6	-1,3	-0,6
22/02	InA 2	4,7	4,6	-3,0	-1,0
22/01	DeK 2	4,6	4,4	-4,6	-1,9



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

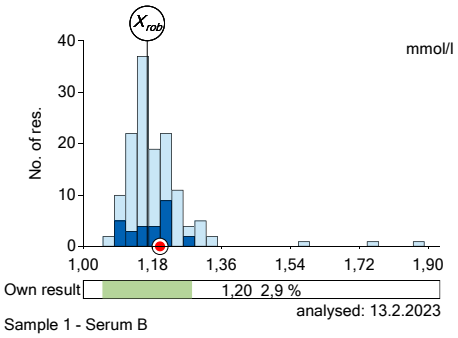
The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

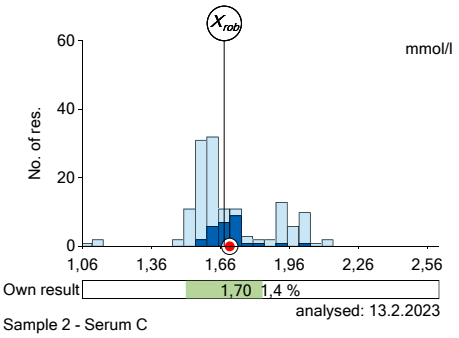
Chol-HDL

0047 | Dimension Vista | 014 | Direct Chol-HDL, Siemens | 202 | Siemens Dimension | 180



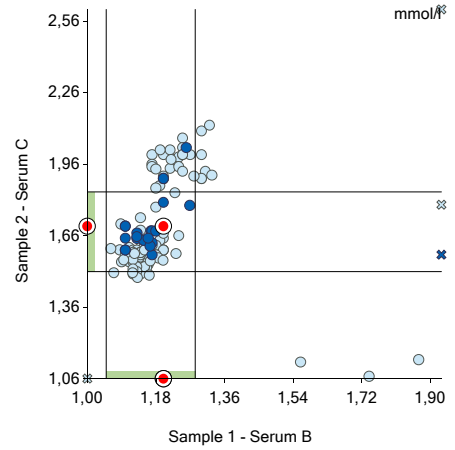
Sample 1 - Serum B
Assigned value (X): 1,17 mmol/l, X_{rob}
Target limits (X ± 10%): 1,05 - 1,28 mmol/l

	x	s	u	CV%	n
Own group	1,167	0,048	0,012	4,1	27
All	1,172	0,054	0,006	4,6	137



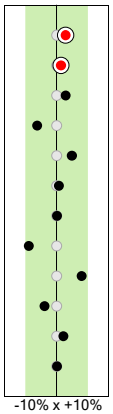
Sample 2 - Serum C
Assigned value (X): 1,68 mmol/l, X_{rob}
Target limits (X ± 10%): 1,51 - 1,84 mmol/l

	x	s	u	CV%	n
Own group	1,676	0,059	0,014	3,5	28
All	1,688	0,178	0,019	10,5	141

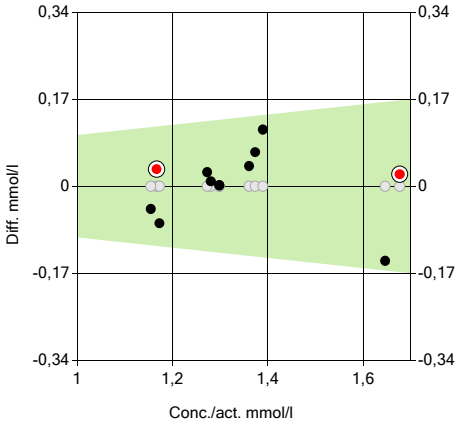


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 202	1,17	1,20	2,9	0,7
23/01	SeL 202	1,68	1,70	1,4	0,4
22/06	DdA 202	1,36	1,40	2,9	0,6
22/06	InB 202	1,17	1,10	-6,2	-1,1
22/05	DeZ 202	1,37	1,44	4,9	1,1
22/05	InA 202	1,28	1,29	0,8	0,1
22/04	DDD 202	1,30	1,30	0,1	0,0
22/04	SeL 202	1,65	1,50	-8,9	-2,5
22/03	DdA 202	1,39	1,50	8,0	1,5
22/03	InB 202	1,15	1,11	-3,8	-0,8
22/02	DeQ 202	1,27	1,30	2,2	0,5
22/02	InA 202	1,30	1,30	0,1	0,1
22/01	DeK 202	1,29	1,30	1,1	0,3



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

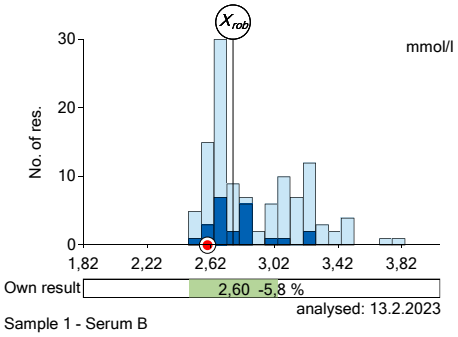
The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Sample 2 - Serum C, Own group:

The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

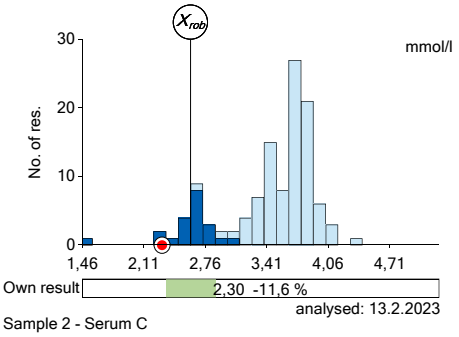
Chol-LDL

0056 | Dimension Vista | 014 | Friedewald's formula | 27 | Friedewald's formula, others | 819



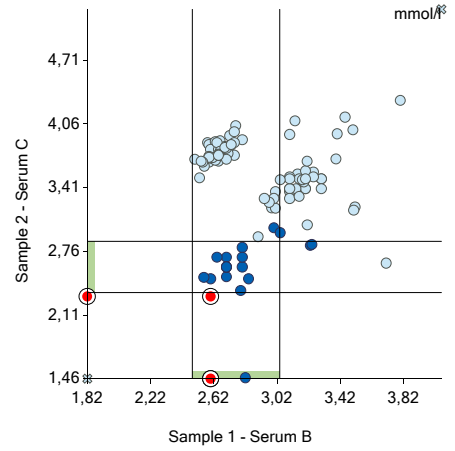
Sample 1 - Serum B
Assigned value (X): 2,76 mmol/l, X_{rob}
Target limits (X ± 10%): 2,48 - 3,04 mmol/l

	x	s	u	CV%	n
Own group	2,761	0,146	0,038	5,3	23
All	2,866	0,293	0,033	10,2	120



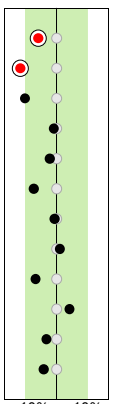
Sample 2 - Serum C
Assigned value (X): 2,60 mmol/l, X_{rob}
Target limits (X ± 10%): 2,34 - 2,86 mmol/l

	x	s	u	CV%	n
Own group	2,600	0,228	0,062	8,8	21
All	3,505	0,426	0,049	12,2	116

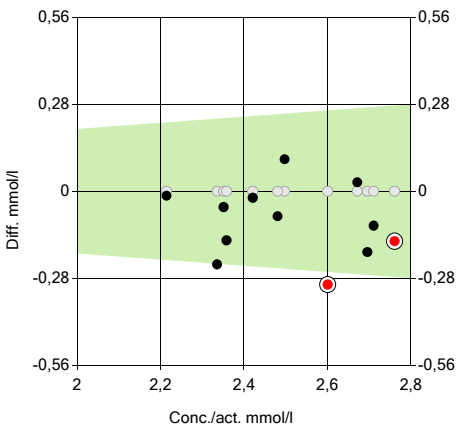


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 27	2,76	2,60	-5,8	-1,1
23/01	SeL 27	2,60	2,30	-11,6	-1,3
22/06	DdA 27	2,34	2,10	-10,1	-1,1
22/06	InB 27	2,42	2,40	-0,9	-0,1
22/05	DeZ 27	2,35	2,30	-2,2	-0,3
22/05	InA 27	2,70	2,50	-7,3	-1,2
22/04	DDD 27	2,21	2,20	-0,6	-0,1
22/04	SeL 27	2,67	2,70	1,1	0,1
22/03	DdA 27	2,36	2,20	-6,7	-0,6
22/03	InB 27	2,50	2,60	4,1	0,9
22/02	DeQ 27	2,48	2,40	-3,2	-0,5
22/02	InA 27	2,71	2,60	-4,1	-0,7
22/01	DeK 27	2,55	2,40	-5,7	-0,7



Conc./act. dependent performance



Comments

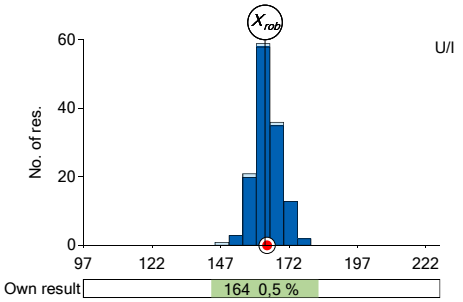
Sample 1 - Serum B, Own group:

The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Sample 2 - Serum C, Own group:

The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

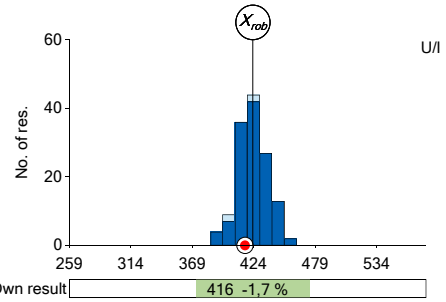
CK
0021 | Dimension Vista | 014 | IFCC comparable methods | 7 | Siemens Dimension Vista System | 805



Own result 164 0,5 % analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 163 U/l, X_{rob}
Target limits (X ± 12%): 144 - 183 U/l

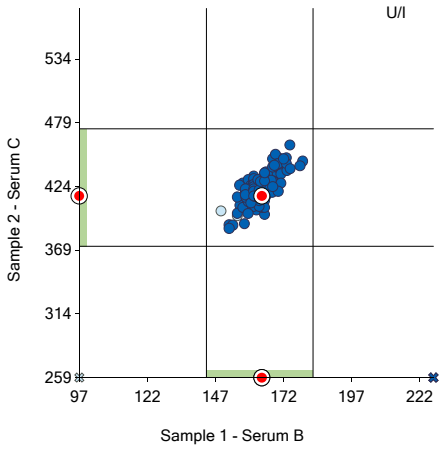
	x	s	u	CV%	n
Own group	163,3	4,7	0,5	2,9	131
All	163,2	4,7	0,5	2,9	135



Own result 416 -1,7 % analysed: 13.2.2023

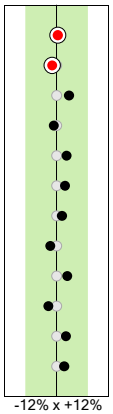
Sample 2 - Serum C
Assigned value (X): 423 U/l, X_{rob}
Target limits (X ± 12%): 372 - 474 U/l

	x	s	u	CV%	n
Own group	423,1	12,3	1,3	2,9	131
All	422,8	12,4	1,3	2,9	135

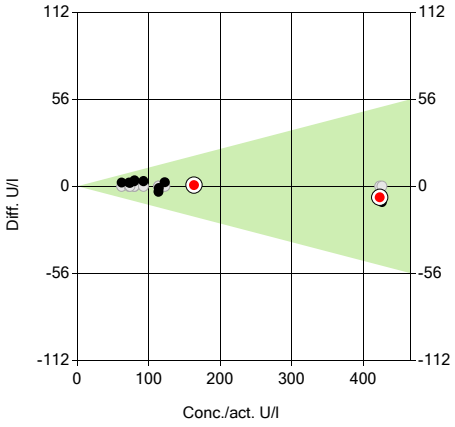


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 7	163	164	0,5	0,2
23/01	SeL 7	423	416	-1,7	-0,6
22/06	DdA 7	80	84	4,8	1,5
22/06	InB 7	114	113	-1,1	-0,3
22/05	DeZ 7	62	64	3,8	0,8
22/05	InA 7	72	75	3,2	0,6
22/04	DDD 7	122	125	2,1	0,8
22/04	SeL 7	426	416	-2,4	-0,9
22/03	DdA 7	80	83	4,1	1,2
22/03	InB 7	114	110	-3,1	-0,8
22/02	DeQ 7	93	96	3,6	1,0
22/02	InA 7	74	76	2,9	0,5
22/01	DeK 7	74	78	6,1	1,3



Conc./act. dependent performance



Comments

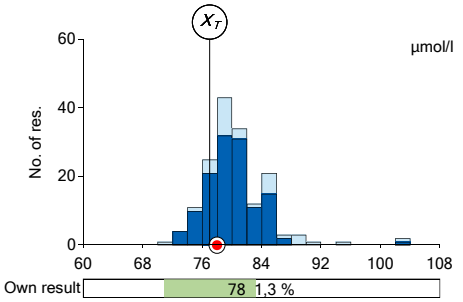
Sample 1 - Serum B, Own group:

The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Sample 2 - Serum C, Own group:

The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

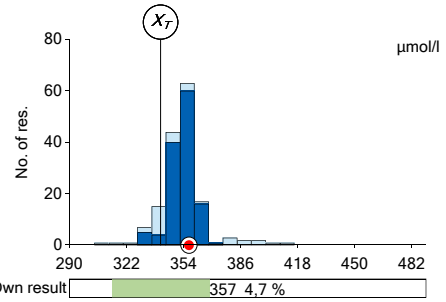
Crea
0005 | Dimension Vista | 014 | Photometry, enzymatic | 2 | Siemens Dimension Vista System | 805



Own result 78 1,3 % analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 77 µmol/l, X_T
Target limits (X ± 8%): 71 - 83 µmol/l

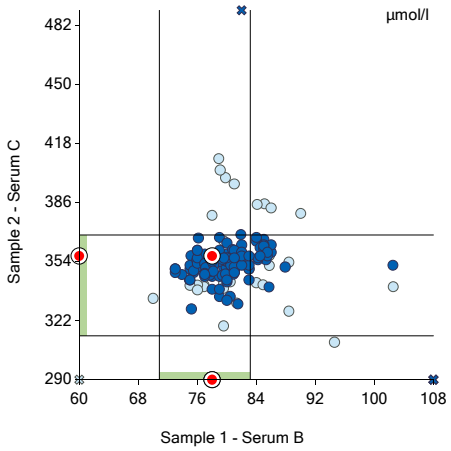
	x	s	u	CV%	n
Own group	79,6	3,2	0,4	4,0	127
All	80,0	3,6	0,4	4,5	161



Own result 357 4,7 % analysed: 13.2.2023

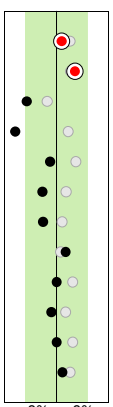
Sample 2 - Serum C
Assigned value (X): 341 µmol/l, X_T
Target limits (X ± 8%): 314 - 368 µmol/l

	x	s	u	CV%	n
Own group	353,2	6,3	0,7	1,8	127
All	352,6	8,6	0,9	2,4	160

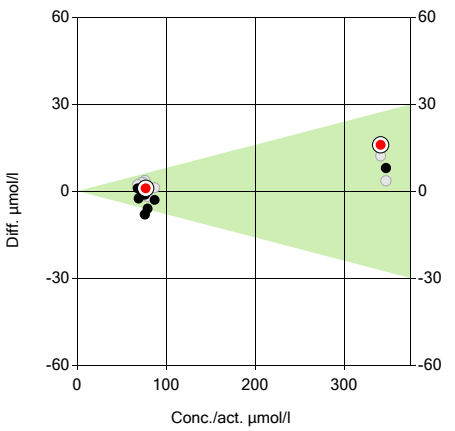


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 2	77	78	1,3	-0,5
23/01	SeL 2	341	357	4,7	0,6
22/06	DdA 2	79	73	-7,6	-1,8
22/06	InB 2	76	68	-10,5	-4,0
22/05	DeZ 2	76	75	-1,6	-1,8
22/05	InA 2	69	67	-3,6	-1,6
22/04	DDD 2	87	84	-3,4	-1,6
22/04	SeL 2	347	355	2,3	0,6
22/03	DdA 2	74	74	0,0	-1,2
22/03	InB 2	75	74	-1,3	-1,0
22/02	DeQ 2	72	72	0,0	-1,1
22/02	InA 2	68	69	1,5	-0,6
22/01	DeK 2	68	71	4,4	0,1



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

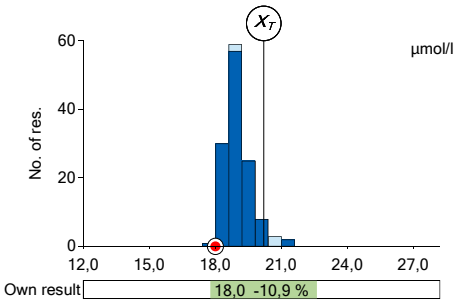
The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Fe

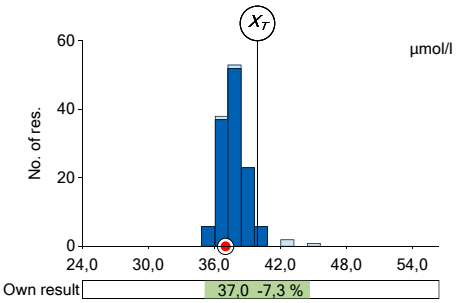
0023 | Dimension Vista | 014 | Photometry | 1 | Siemens Dimension | 180



analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 20,2 µmol/l, X_T
Target limits (X ± 12%): 17,8 - 22,6 µmol/l

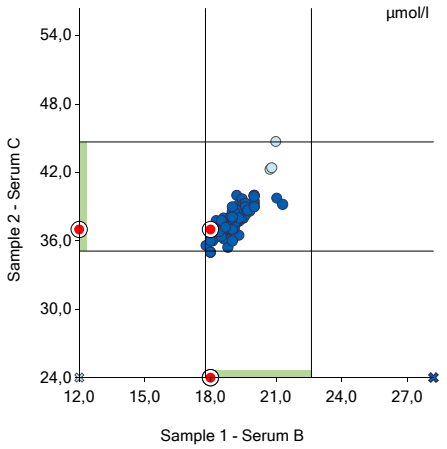
	x	s	u	CV%	n
Own group	18,91	0,55	0,06	2,9	123
All	18,94	0,57	0,06	3,0	128



analysed: 13.2.2023

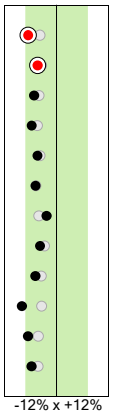
Sample 2 - Serum C
Assigned value (X): 39,9 µmol/l, X_T
Target limits (X ± 12%): 35,1 - 44,7 µmol/l

	x	s	u	CV%	n
Own group	37,61	1,12	0,13	3,0	124
All	37,66	1,15	0,13	3,1	129

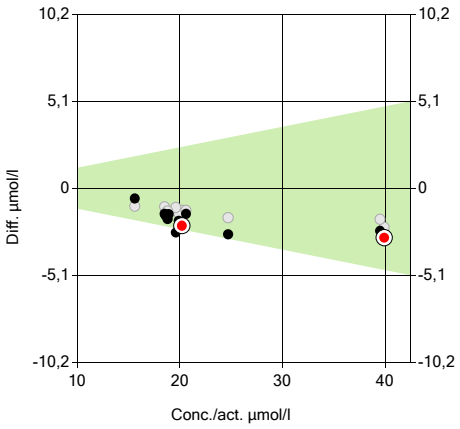


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 1	20,2	18,0	-10,9	-1,7
23/01	SeL 1	39,9	37,0	-7,3	-0,5
22/06	DdA 1	18,6	17,0	-8,6	-0,7
22/06	InB 1	19,9	18,0	-9,5	-0,6
22/05	DeZ 1	20,6	19,1	-7,3	-0,4
22/05	InA 1	18,9	17,4	-8,0	0,0
22/04	DDD 1	15,6	15,0	-3,8	0,9
22/04	SeL 1	39,5	37,0	-6,3	-0,8
22/03	DdA 1	18,5	17,0	-8,1	-0,8
22/03	InB 1	19,6	17,0	-13,3	-2,2
22/02	DeQ 1	24,7	22,0	-10,9	-1,3
22/02	InA 1	18,8	17,0	-9,6	-0,7
22/01	DeK 1	18,7	18,0	-3,7	0,5



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

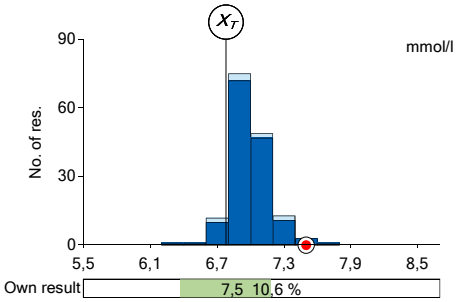
The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Glucose

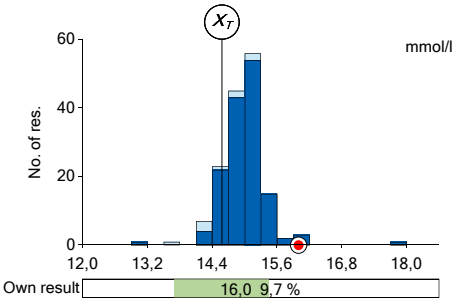
0009 | Dimension Vista | 014 | Photometry | 1 | Siemens Dimension | 180



analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 6,8 mmol/l, X_T
Target limits (X ± 6%): 6,4 - 7,2 mmol/l

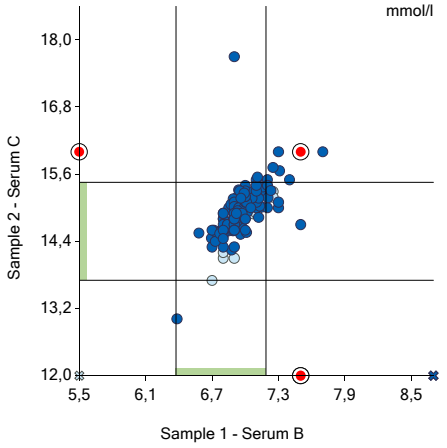
	x	s	u	CV%	n
Own group	6,97	0,14	0,01	1,9	146
All	6,97	0,14	0,01	2,1	155



analysed: 13.2.2023

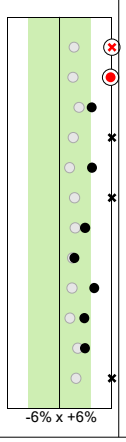
Sample 2 - Serum C
Assigned value (X): 14,6 mmol/l, X_T
Target limits (X ± 6%): 13,7 - 15,5 mmol/l

	x	s	u	CV%	n
Own group	14,95	0,31	0,03	2,1	145
All	14,94	0,33	0,03	2,2	154

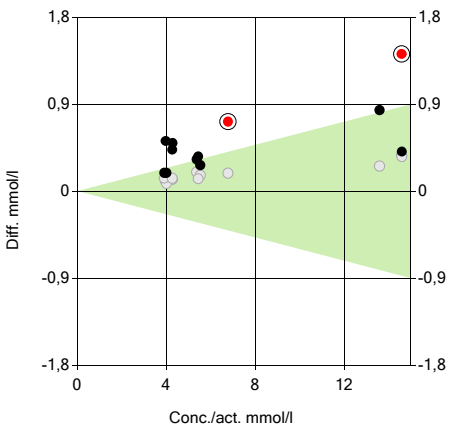


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 1	6,8	7,5	10,6	3,9
23/01	SeL 1	14,6	16,0	9,7	3,4
22/06	DdA 1	5,4	5,7	6,1	1,1
22/06	InB 1	4,0	4,5	13,1	4,8
22/05	DeZ 1	13,6	14,4	6,2	2,1
22/05	InA 1	4,3	4,8	11,7	2,9
22/04	DDD 1	5,5	5,8	4,9	0,9
22/04	SeL 1	14,6	15,0	2,8	0,1
22/03	DdA 1	5,4	5,8	6,6	2,0
22/03	InB 1	4,0	4,2	4,7	1,2
22/02	DeQ 1	3,9	4,1	4,9	0,5
22/02	InA 1	4,3	4,7	10,1	2,4
22/01	DeK 1	2,9	3,1	8,4	1,4



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

GT
0032

Dimension Vista
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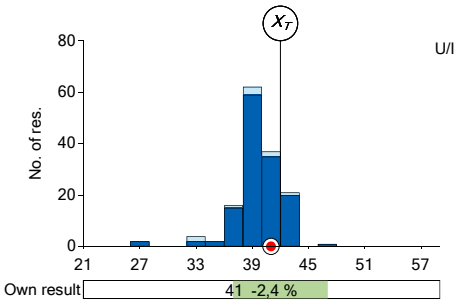
IFCC comparable methods
7

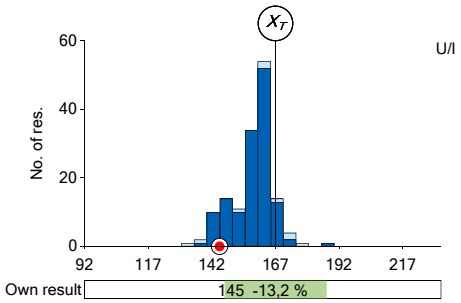
Siemens Dimension
180



Own result 41 -2,4 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 42 U/l, X_T
Target limits (X ± 12%): 37 - 47 U/l

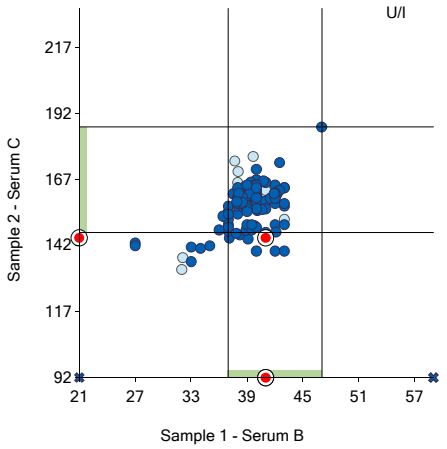
	x	s	u	CV%	n
Own group	39,4	1,9	0,2	4,7	136
All	39,4	1,9	0,2	4,8	145



Own result 145 -13,2 %
analysed: 13.2.2023

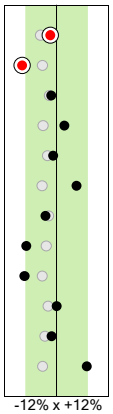
Sample 2 - Serum C
Assigned value (X): 167 U/l, X_T
Target limits (X ± 12%): 147 - 187 U/l

	x	s	u	CV%	n
Own group	158,0	6,9	0,7	4,4	137
All	158,1	7,3	0,8	4,6	146

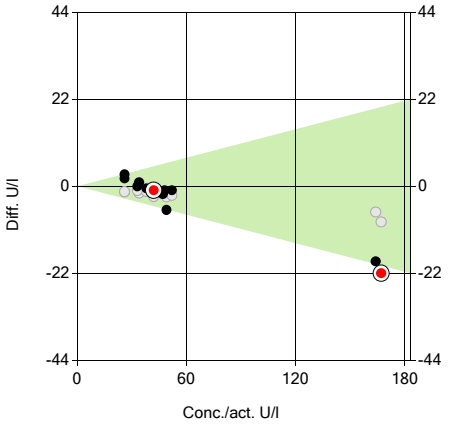


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 7	42	41	-2,4	0,9
23/01	SeL 7	167	145	-13,2	-1,9
22/06	DdA 7	48	47	-2,1	0,2
22/06	InB 7	34	35	2,9	1,8
22/05	DeZ 7	38	37	-1,3	0,4
22/05	InA 7	26	28	7,6	1,7
22/04	DDD 7	47	45	-4,3	-0,3
22/04	SeL 7	164	145	-11,6	-1,6
22/03	DdA 7	49	43	-12,2	-1,9
22/03	InB 7	33	33	0,0	0,7
22/02	DeQ 7	52	51	-1,9	0,7
22/02	InA 7	26	29	11,5	2,5
22/01	DeK 7	51	51	0,0	1,0



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

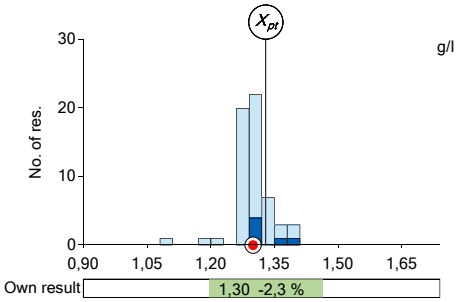
The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Haptog
0029

Dimension Vista
014

Siemens nephelometry
22

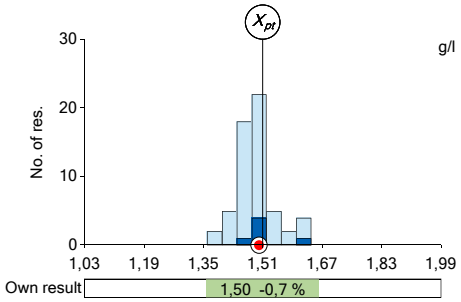
Siemens Dimension Vista System
805



Own result 1,30 -2,3 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 1,33 g/l, X_{pt}
Target limits (X ± 10%): 1,20 - 1,46 g/l

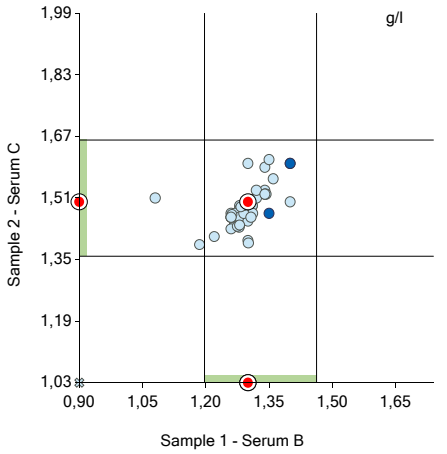
	x	s	u	CV%	n
Own group	1,325	0,042	0,017	3,2	6
All	1,297	0,032	0,005	2,5	58



Own result 1,50 -0,7 %
analysed: 13.2.2023

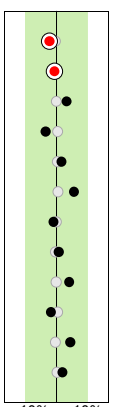
Sample 2 - Serum C
Assigned value (X): 1,51 g/l, X_{pt}
Target limits (X ± 10%): 1,36 - 1,66 g/l

	x	s	u	CV%	n
Own group	1,512	0,045	0,018	3,0	6
All	1,482	0,039	0,006	2,6	58

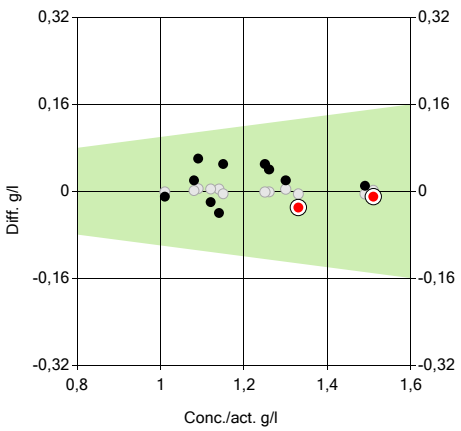


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 22	1,33	1,30	-2,3	-0,6
23/01	SeL 22	1,51	1,50	-0,7	-0,3
22/06	DdA 22	1,26	1,30	3,2	0,9
22/06	InB 22	1,14	1,10	-3,5	-0,8
22/05	DeZ 22	1,30	1,32	1,5	0,4
22/05	InA 22	1,09	1,15	5,5	0,7
22/04	DDD 22	1,01	1,00	-1,0	-0,3
22/04	SeL 22	1,49	1,50	0,7	0,2
22/03	DdA 22	1,25	1,30	4,0	0,9
22/03	InB 22	1,12	1,10	-1,8	-0,5
22/02	DeQ 22	1,15	1,20	4,3	0,6
22/02	InA 22	1,08	1,10	1,9	0,2
22/01	DeK 22	1,29	1,30	0,8	0,6



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

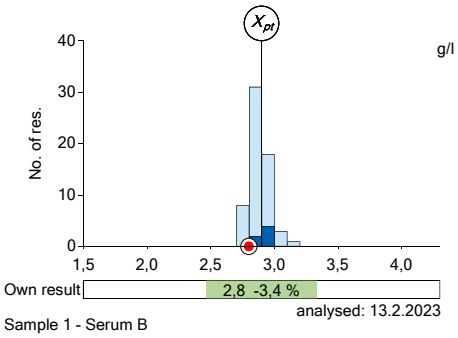
The standard measurement uncertainty (u) of the assigned value (Xpt) is the standard error of the mean (SEM).
The uncertainty (u) of the assigned value is not negligible, and evaluations could be affected. Z score is uncertain due to the small number of observations.

Sample 2 - Serum C, Own group:

The standard measurement uncertainty (u) of the assigned value (Xpt) is the standard error of the mean (SEM).
The uncertainty (u) of the assigned value is not negligible, and evaluations could be affected. Z score is uncertain due to the small number of observations.

IgA

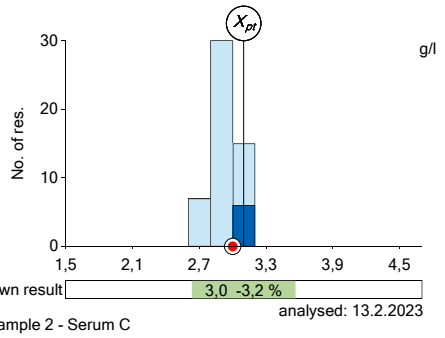
0042 | Dimension Vista | 014 | Siemens nephelometry | 22 | Siemens Dimension Vista System | 805



Own result 2,8 -3,4 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 2,9 g/l, X_{pt}
Target limits (X ± 15%): 2,5 - 3,3 g/l

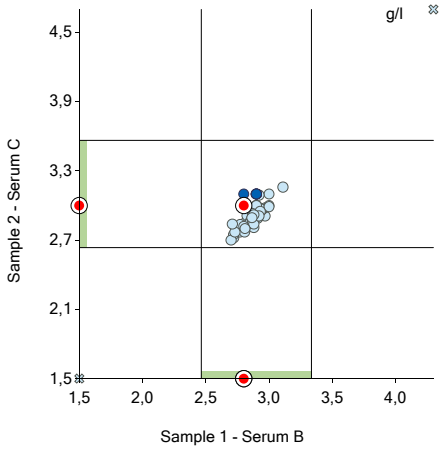
	x	s	u	CV%	n
Own group	2,87	0,05	0,02	1,8	6
All	2,86	0,07	0,01	2,4	61



Own result 3,0 -3,2 %
analysed: 13.2.2023

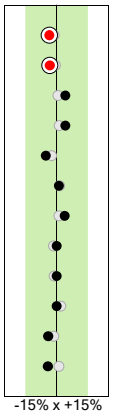
Sample 2 - Serum C
Assigned value (X): 3,1 g/l, X_{pt}
Target limits (X ± 15%): 2,6 - 3,6 g/l

	x	s	u	CV%	n
Own group	3,08	0,04	0,02	1,3	6
All	2,91	0,11	0,02	3,7	61

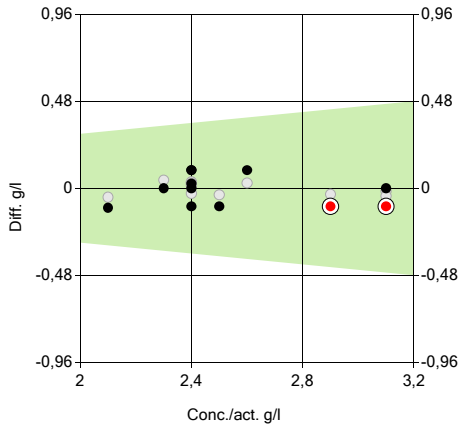


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 22	2,9	2,8	-3,4	-1,3
23/01	SeL 22	3,1	3,0	-3,2	-2,0
22/06	DdA 22	2,4	2,5	4,2	1,3
22/06	InB 22	2,4	2,5	4,2	0,9
22/05	DeZ 22	2,1	2,0	-5,1	-1,1
22/05	InA 22	2,4	2,4	1,1	-0,1
22/04	DDD 22	2,6	2,7	3,8	1,4
22/04	SeL 22	3,1	3,1	0,0	0,9
22/03	DdA 22	2,4	2,4	0,0	0,2
22/03	InB 22	2,3	2,3	0,0	-0,4
22/02	DeQ 22	2,5	2,4	-4,0	-0,3
22/02	InA 22	2,4	2,3	-4,2	-0,6
22/01	DeK 22	2,3	2,4	4,3	1,4



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

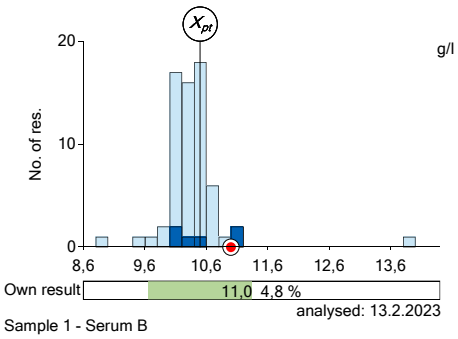
The standard measurement uncertainty (u) of the assigned value (Xpt) is the standard error of the mean (SEM).
Z score is uncertain due to the small number of observations.

Sample 2 - Serum C, Own group:

The standard measurement uncertainty (u) of the assigned value (Xpt) is the standard error of the mean (SEM).
Z score is uncertain due to the small number of observations.

IgG

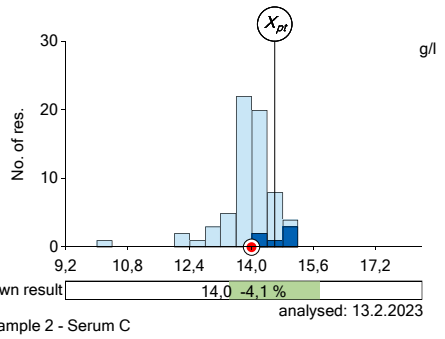
0044 | Dimension Vista | 014 | Siemens nephelometry | 22 | Siemens Dimension Vista System | 805



Own result 11,0 4,8 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 10,5 g/l, X_{pt}
Target limits (X ± 8%): 9,7 - 11,3 g/l

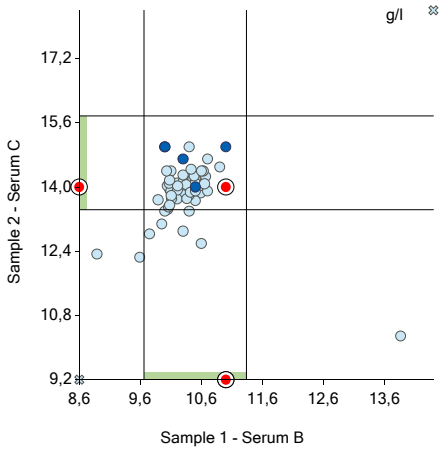
	x	s	u	CV%	n
Own group	10,47	0,45	0,19	4,3	6
All	10,31	0,28	0,04	2,7	66



Own result 14,0 -4,1 %
analysed: 13.2.2023

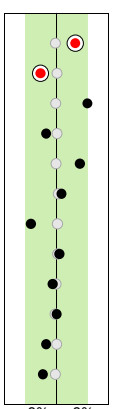
Sample 2 - Serum C
Assigned value (X): 14,6 g/l, X_{pt}
Target limits (X ± 8%): 13,4 - 15,8 g/l

	x	s	u	CV%	n
Own group	14,62	0,49	0,20	3,4	6
All	13,95	0,43	0,07	3,1	66

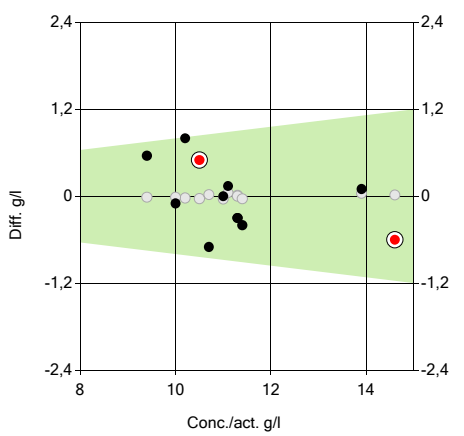


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 22	10,5	11,0	4,8	1,2
23/01	SeL 22	14,6	14,0	-4,1	-1,3
22/06	DdA 22	10,2	11,0	7,8	2,2
22/06	InB 22	11,3	11,0	-2,7	-0,8
22/05	DeZ 22	9,4	10,0	5,9	1,6
22/05	InA 22	11,1	11,2	1,3	0,6
22/04	DDD 22	10,7	10,0	-6,5	-1,3
22/04	SeL 22	13,9	14,0	0,7	0,1
22/03	DdA 22	10,0	9,9	-1,0	-0,2
22/03	InB 22	11,0	11,0	0,0	0,1
22/02	DeQ 22	11,3	11,0	-2,7	-0,9
22/02	InA 22	11,4	11,0	-3,5	-0,9
22/01	DeK 22	9,4	10,0	6,4	1,5



Conc./act. dependent performance



Comments

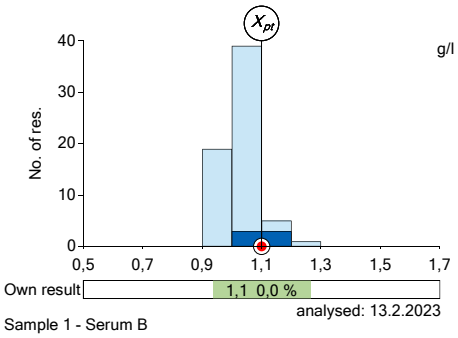
Sample 1 - Serum B, Own group:

The standard measurement uncertainty (u) of the assigned value (Xpt) is the standard error of the mean (SEM).
The uncertainty (u) of the assigned value is not negligible, and evaluations could be affected. Z score is uncertain due to the small number of observations.

Sample 2 - Serum C, Own group:

The standard measurement uncertainty (u) of the assigned value (Xpt) is the standard error of the mean (SEM).
The uncertainty (u) of the assigned value is not negligible, and evaluations could be affected. Z score is uncertain due to the small number of observations.

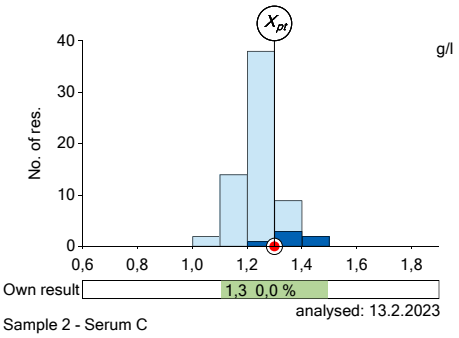
IgM
0045 | Dimension Vista | 014 | Siemens nephelometry | 22 | Siemens Dimension Vista System | 805



analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 1,1 g/l, X_{pt}
Target limits (X ± 15%): 0,9 - 1,3 g/l

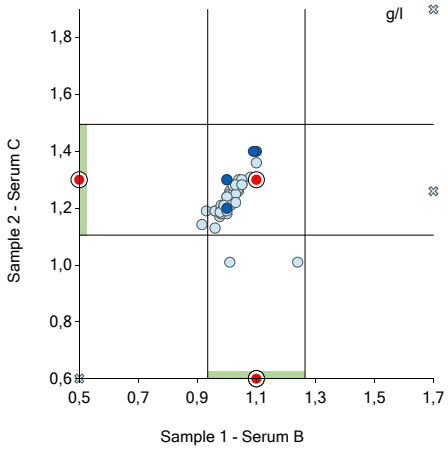
	x	s	u	CV%	n
Own group	1,07	0,05	0,02	4,7	6
All	1,01	0,03	0,01	3,3	64



analysed: 13.2.2023

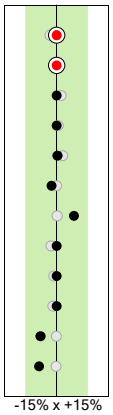
Sample 2 - Serum C
Assigned value (X): 1,3 g/l, X_{pt}
Target limits (X ± 15%): 1,1 - 1,5 g/l

	x	s	u	CV%	n
Own group	1,32	0,08	0,03	5,7	6
All	1,23	0,05	0,01	4,2	65

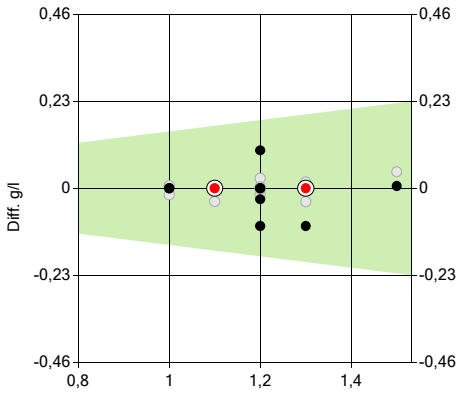


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 22	1,1	1,1	0,0	0,7
23/01	SeL 22	1,3	1,3	0,0	-0,2
22/06	DdA 22	1,2	1,2	0,0	-0,5
22/06	InB 22	1,0	1,0	0,0	-0,3
22/05	DeZ 22	1,5	1,5	0,4	-0,9
22/05	InA 22	1,2	1,2	-2,4	-0,4
22/04	DDD 22	1,2	1,3	8,3	1,9
22/04	SeL 22	1,3	1,3	0,0	0,9
22/03	DdA 22	1,2	1,2	0,0	0,4
22/03	InB 22	1,0	1,0	0,0	0,5
22/02	DeQ 22	1,3	1,2	-7,7	-0,9
22/02	InA 22	1,2	1,1	-8,3	-0,7
22/01	DeK 22	1,2	1,2	0,0	0,7



Conc./act. dependent performance



Comments

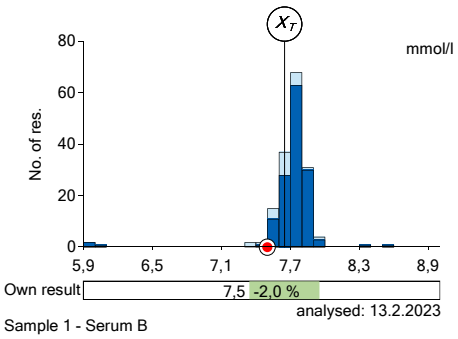
Sample 1 - Serum B, Own group:

The standard measurement uncertainty (u) of the assigned value (Xpt) is the standard error of the mean (SEM).
The uncertainty (u) of the assigned value is not negligible, and evaluations could be affected. Z score is uncertain due to the small number of observations.

Sample 2 - Serum C, Own group:

The standard measurement uncertainty (u) of the assigned value (Xpt) is the standard error of the mean (SEM).
The uncertainty (u) of the assigned value is not negligible, and evaluations could be affected. Z score is uncertain due to the small number of observations.

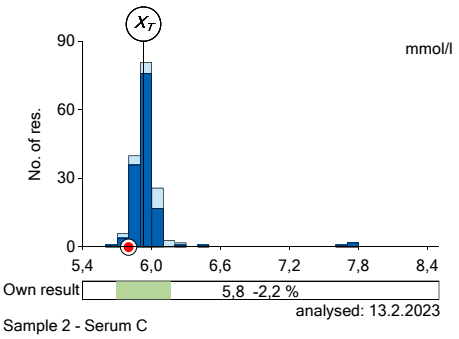
K
0002 | Dimension Vista | 014 | ISE indirect | 10 | Siemens Dimension | 180



analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 7,7 mmol/l, X_T
Target limits (X ± 4%): 7,3 - 8,0 mmol/l

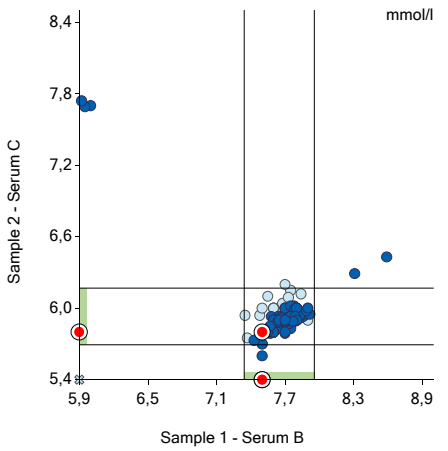
	x	s	u	CV%	n
Own group	7,72	0,10	0,01	1,3	141
All	7,70	0,11	0,01	1,4	164



analysed: 13.2.2023

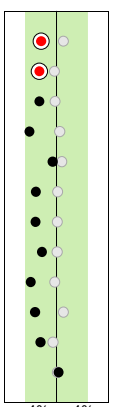
Sample 2 - Serum C
Assigned value (X): 5,9 mmol/l, X_T
Target limits (X ± 4%): 5,7 - 6,2 mmol/l

	x	s	u	CV%	n
Own group	5,91	0,07	0,01	1,2	139
All	5,92	0,08	0,01	1,4	163

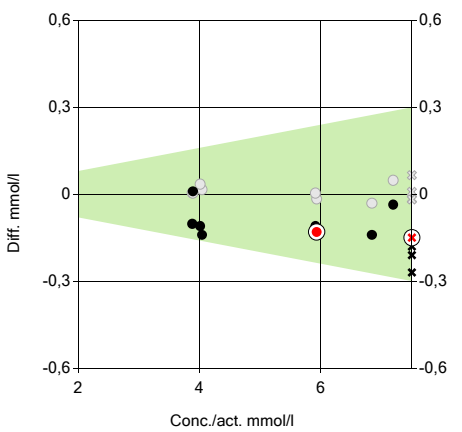


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 10	7,7	7,5	-2,0	-2,2
23/01	SeL 10	5,9	5,8	-2,2	-1,6
22/06	DdA 10	8,2	8,0	-2,2	-1,6
22/06	InB 10	4,0	3,9	-3,5	-2,6
22/05	DeZ 10	7,2	7,2	-0,5	-0,7
22/05	InA 10	3,9	3,8	-2,6	-1,5
22/04	DDD 10	7,8	7,6	-2,7	-1,9
22/04	SeL 10	5,9	5,8	-1,9	-1,4
22/03	DdA 10	8,2	7,9	-3,3	-2,1
22/03	InB 10	4,0	3,9	-2,7	-2,2
22/02	DeQ 10	6,8	6,7	-2,0	-1,0
22/02	InA 10	3,9	3,9	0,3	0,1
22/01	DeK 10	8,0	7,9	-1,1	-1,0



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

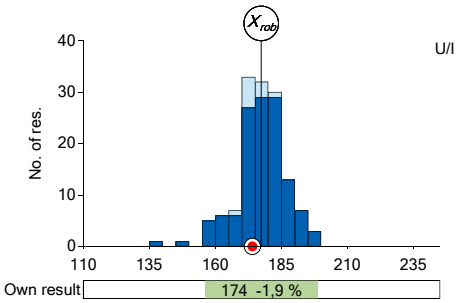
The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

LD
0022

Dimension Vista
014

IFCC comparable methods
52

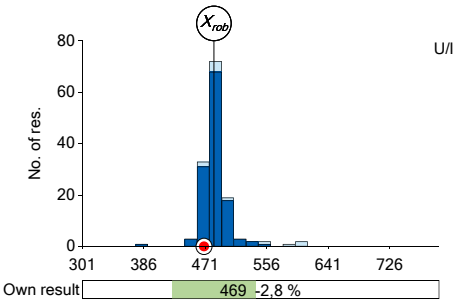
Siemens Dimension
180



Own result 174 -1,9 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 177 U/l, x_{rob}
Target limits (X ± 12%): 156 - 199 U/l

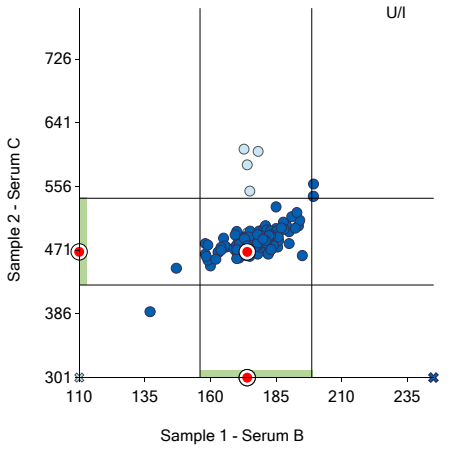
	x	s	u	CV%	n
Own group	177,3	8,4	0,9	4,7	127
All	177,1	8,0	0,9	4,5	138



Own result 469 -2,8 %
analysed: 13.2.2023

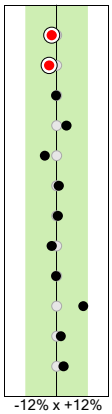
Sample 2 - Serum C
Assigned value (X): 483 U/l, x_{rob}
Target limits (X ± 12%): 425 - 541 U/l

	x	s	u	CV%	n
Own group	482,7	13,2	1,5	2,7	127
All	483,3	13,6	1,4	2,8	138

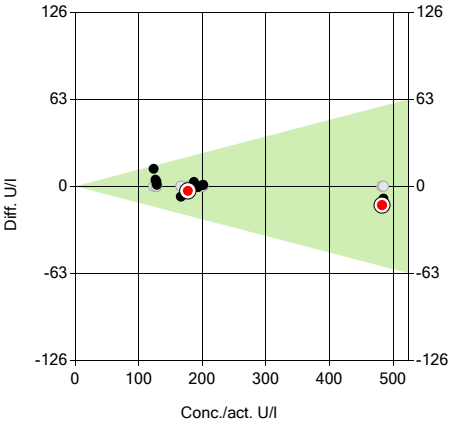


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 52	177	174	-1,9	-0,4
23/01	SeL 52	483	469	-2,8	-1,0
22/06	DdA 52	192	192	-0,2	-0,1
22/06	InB 52	126	131	3,7	0,6
22/05	DeZ 52	166	159	-4,5	-0,9
22/05	InA 52	128	130	0,8	0,1
22/04	DDD 52	201	202	0,4	0,1
22/04	SeL 52	485	476	-1,8	-0,7
22/03	DdA 52	193	193	-0,2	-0,1
22/03	InB 52	123	136	10,2	1,3
22/02	DeQ 52	187	190	1,7	0,4
22/02	InA 52	128	131	2,6	0,5
22/01	DeK 52	174	180	3,3	0,8



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Sample 2 - Serum C, Own group:

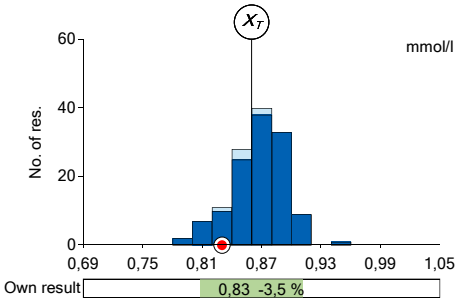
The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Mg
0011

Dimension Vista
014

Photometry
1

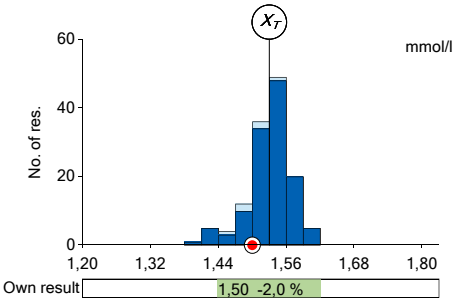
Siemens Dimension
180



Own result 0,83 -3,5 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 0,86 mmol/l, x_T
Target limits (X ± 6%): 0,81 - 0,91 mmol/l

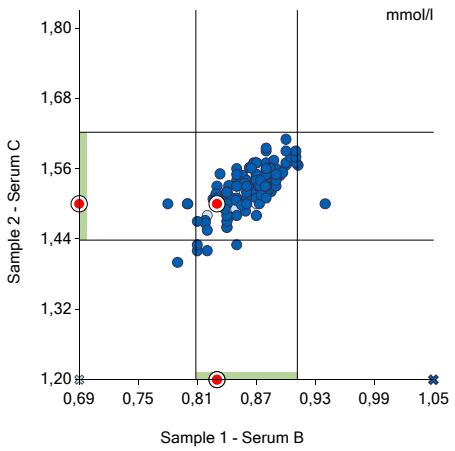
	x	s	u	CV%	n
Own group	0,864	0,026	0,003	3,0	125
All	0,864	0,026	0,003	3,0	131



Own result 1,50 -2,0 %
analysed: 13.2.2023

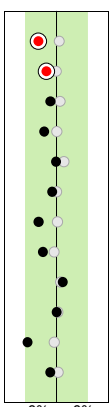
Sample 2 - Serum C
Assigned value (X): 1,53 mmol/l, x_T
Target limits (X ± 6%): 1,44 - 1,62 mmol/l

	x	s	u	CV%	n
Own group	1,529	0,033	0,004	2,2	126
All	1,527	0,034	0,004	2,2	132

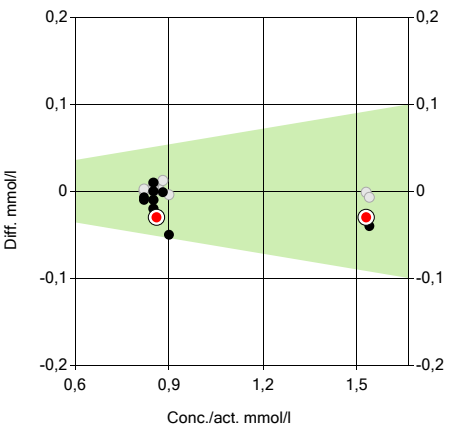


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 1	0,86	0,83	-3,5	-1,3
23/01	SeL 1	1,53	1,50	-2,0	-0,9
22/06	DdA 1	0,85	0,84	-1,2	-0,7
22/06	InB 1	0,85	0,83	-2,4	-0,9
22/05	DeZ 1	0,88	0,88	-0,1	-0,4
22/05	InA 1	0,82	0,81	-0,9	-0,2
22/04	DDD 1	0,87	0,84	-3,4	-1,4
22/04	SeL 1	1,54	1,50	-2,6	-1,0
22/03	DdA 1	0,85	0,86	1,2	0,1
22/03	InB 1	0,85	0,85	0,0	-0,1
22/02	DeQ 1	0,90	0,85	-5,6	-1,5
22/02	InA 1	0,82	0,81	-1,2	-0,4
22/01	DeK 1	0,85	0,92	8,2	3,0



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

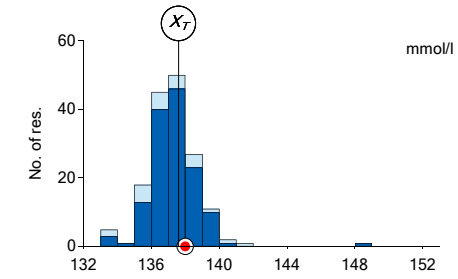
The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Na

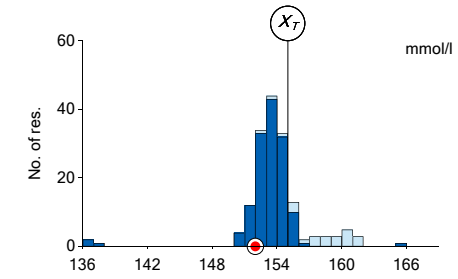
0001 | Dimension Vista | 014 | ISE indirect | 10 | Siemens Dimension | 180



Own result 138 0,3 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 138 mmol/l, X_T
Target limits (X ± 2%): 135 - 140 mmol/l

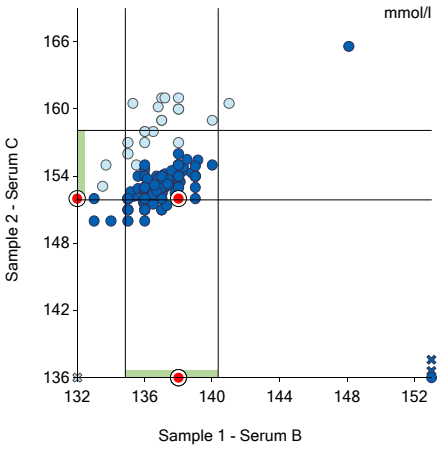
	x	s	u	CV%	n
Own group	137,0	1,2	0,1	0,9	141
All	137,0	1,3	0,1	1,0	164



Own result 152 -1,9 %
analysed: 13.2.2023

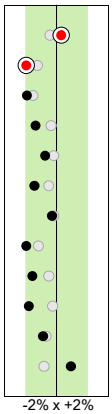
Sample 2 - Serum C
Assigned value (X): 155 mmol/l, X_T
Target limits (X ± 2%): 152 - 158 mmol/l

	x	s	u	CV%	n
Own group	153,1	1,3	0,1	0,8	139
All	153,4	1,6	0,2	1,1	163

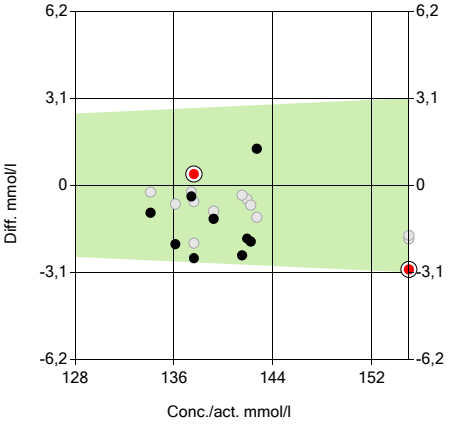


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 10	138	138	0,3	0,8
23/01	SeL 10	155	152	-1,9	-0,8
22/06	DdA 10	138	135	-1,9	-0,4
22/06	InB 10	142	140	-1,3	-1,1
22/05	DeZ 10	134	133	-0,7	-0,6
22/05	InA 10	142	140	-1,4	-1,0
22/04	DDD 10	137	137	-0,3	-0,1
22/04	SeL 10	155	152	-1,9	-0,8
22/03	DdA 10	136	134	-1,5	-1,2
22/03	InB 10	142	139	-1,8	-1,6
22/02	DeQ 10	139	138	-0,9	-0,2
22/02	InA 10	143	144	0,9	1,7
22/01	DeK 10	139	139	-0,1	0,2



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

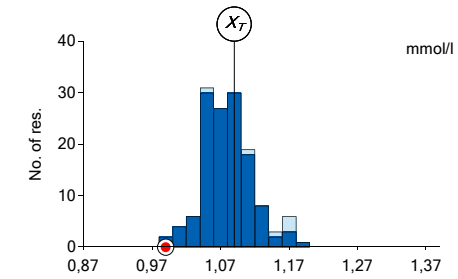
The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Pi

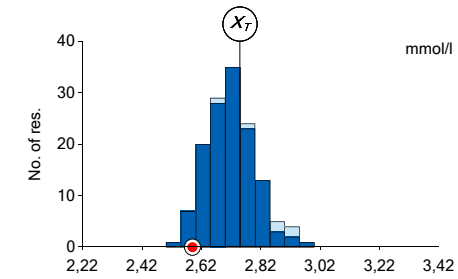
0012 | Dimension Vista | 014 | Photometry | 1 | Siemens Dimension | 180



Own result 0,99 -9,2 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 1,09 mmol/l, X_T
Target limits (X ± 6%): 1,02 - 1,16 mmol/l

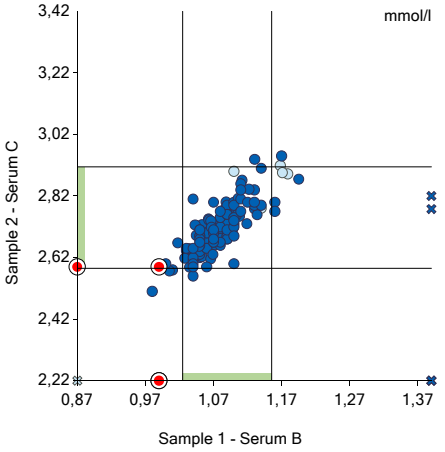
	x	s	u	CV%	n
Own group	1,075	0,032	0,004	3,0	131
All	1,077	0,034	0,004	3,2	137



Own result 2,59 -5,8 %
analysed: 13.2.2023

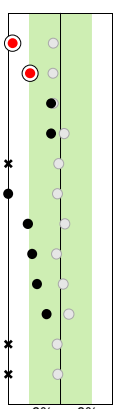
Sample 2 - Serum C
Assigned value (X): 2,75 mmol/l, X_T
Target limits (X ± 6%): 2,59 - 2,92 mmol/l

	x	s	u	CV%	n
Own group	2,710	0,077	0,008	2,8	133
All	2,714	0,081	0,009	3,0	139

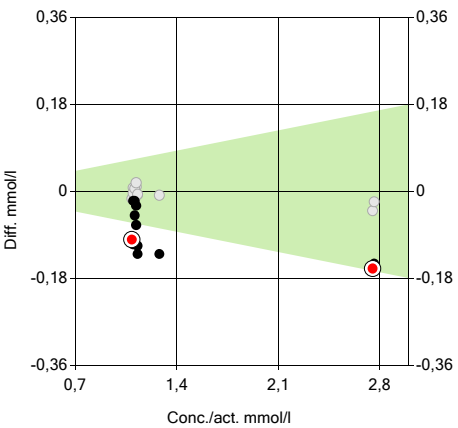


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 1	1,09	0,99	-9,2	-2,6
23/01	SeL 1	2,75	2,59	-5,8	-1,6
22/06	DdA 1	1,11	1,09	-1,8	-0,1
22/06	InB 1	1,10	1,08	-1,8	-0,7
22/05	DeZ 1	1,10	0,99	-10,0	-2,3
22/05	InA 1	1,13	1,02	-10,0	-2,6
22/04	DDD 1	1,12	1,05	-6,3	-1,8
22/04	SeL 1	2,76	2,61	-5,4	-1,6
22/03	DdA 1	1,11	1,06	-4,5	-1,5
22/03	InB 1	1,12	1,09	-2,7	-1,1
22/02	DeQ 1	1,28	1,15	-10,2	-2,2
22/02	InA 1	1,13	1,00	-11,5	-2,6
22/01	DeK 1	1,42	1,32	-7,0	-2,4



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

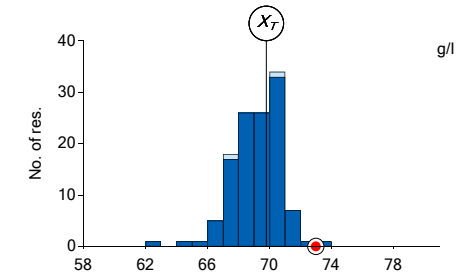
The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Prot

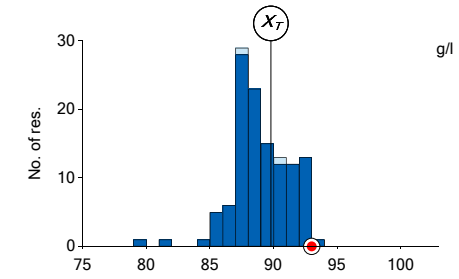
0007 | Dimension Vista | 014 | Photometry | 1 | Siemens Dimension | 180



Own result 73 4,6 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 70 g/l, x_T
Target limits (X ± 5%): 66 - 73 g/l

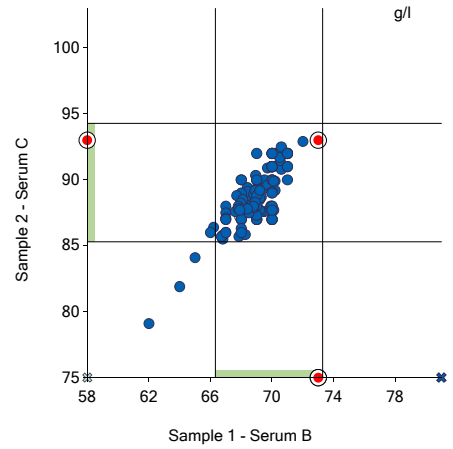
	x	s	u	CV%	n
Own group	69,0	1,4	0,2	2,0	121
All	69,0	1,4	0,2	2,0	123



Own result 93 3,6 %
analysed: 13.2.2023

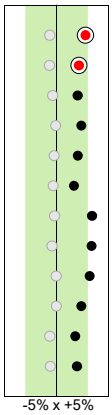
Sample 2 - Serum C
Assigned value (X): 90 g/l, x_T
Target limits (X ± 5%): 85 - 94 g/l

	x	s	u	CV%	n
Own group	88,8	2,2	0,3	2,5	120
All	88,8	2,2	0,2	2,5	122

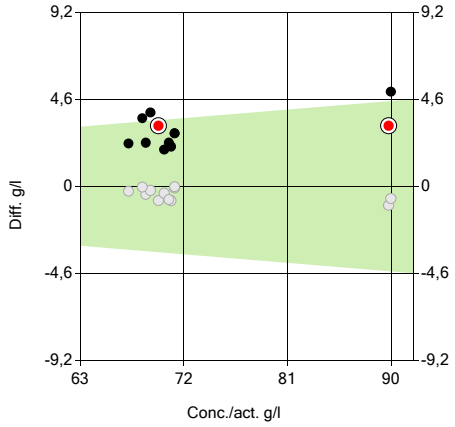


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 1	70	73	4,6	2,9
23/01	SeL 1	90	93	3,6	1,9
22/06	DdA 1	69	71	3,3	1,7
22/06	InB 1	71	74	3,9	1,8
22/05	DeZ 1	67	69	3,4	1,8
22/05	InA 1	70	72	2,8	1,4
22/04	DDD 1	69	73	5,6	2,4
22/04	SeL 1	90	95	5,6	2,1
22/03	DdA 1	68	72	5,3	2,2
22/03	InB 1	71	74	3,9	1,7
22/02	DeQ 1	71	73	3,0	1,8
22/02	InA 1	71	73	3,3	1,7
22/01	DeK 1	68	71	4,3	1,9



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

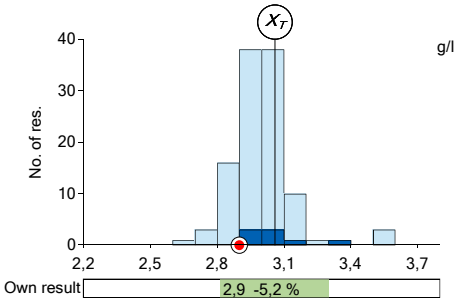
The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Transf

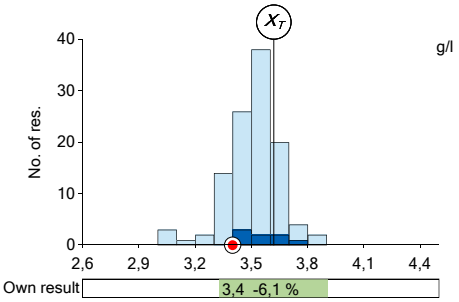
0025 | Dimension Vista | 014 | Siemens nephelometry | 22 | Siemens Dimension Vista System | 805



Own result 2,9 -5,2 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 3,1 g/l, x_T
Target limits (X ± 8%): 2,8 - 3,3 g/l

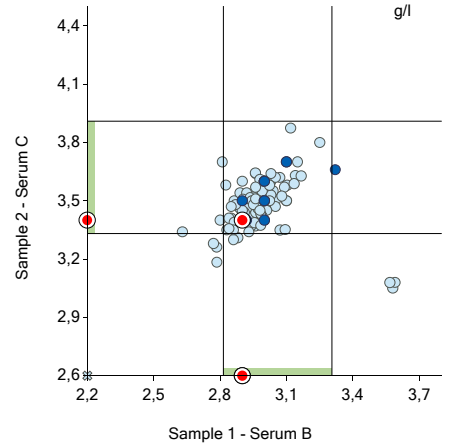
	x	s	u	CV%	n
Own group	3,02	0,14	0,05	4,6	8
All	2,98	0,10	0,01	3,2	111



Own result 3,4 -6,1 %
analysed: 13.2.2023

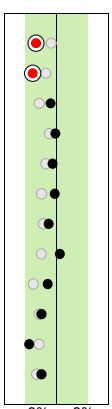
Sample 2 - Serum C
Assigned value (X): 3,6 g/l, x_T
Target limits (X ± 8%): 3,3 - 3,9 g/l

	x	s	u	CV%	n
Own group	3,52	0,12	0,04	3,4	8
All	3,49	0,11	0,01	3,3	110

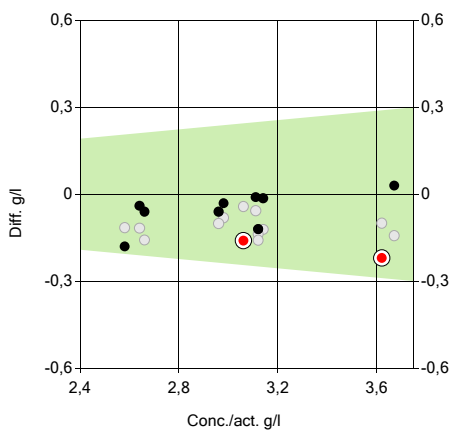


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 22	3,1	2,9	-5,2	-0,8
23/01	SeL 22	3,6	3,4	-6,1	-1,0
22/06	DdA 22	2,6	2,6	-1,5	0,7
22/06	InB 22	3,1	3,1	-0,3	0,5
22/05	DeZ 22	3,0	2,9	-1,0	0,3
22/05	InA 22	3,1	3,1	-0,4	0,8
22/04	DDD 22	3,0	2,9	-2,0	0,8
22/04	SeL 22	3,7	3,7	0,8	2,0
22/03	DdA 22	2,7	2,6	-2,3	0,8
22/03	InB 22	3,1	3,0	-3,8	0,2
22/02	DeQ 22	2,6	2,4	-7,0	-0,6
22/02	InA 22	3,1	3,0	-3,8	0,3
22/01	DeK 22	2,8	2,7	-4,3	0,1



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

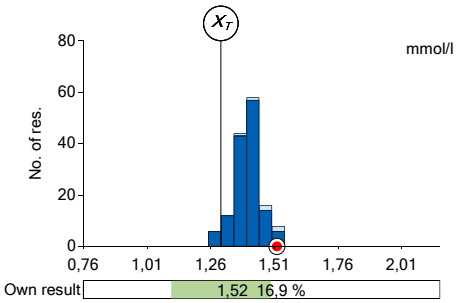
The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.
Z score is uncertain due to the small number of observations.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.
Z score is uncertain due to the small number of observations.

Trigly

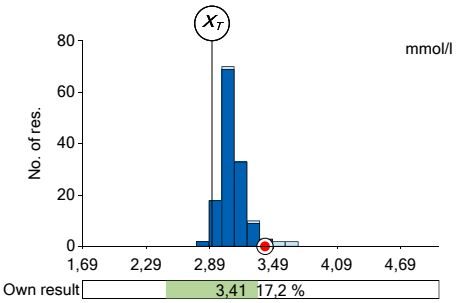
0015 | Dimension Vista | 014 | Photometry, enzymatic | 2 | Siemens Dimension | 180



Own result 1,52 16,9 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 1,30 mmol/l, X_T
Target limits (X ± 15%): 1,11 - 1,50 mmol/l

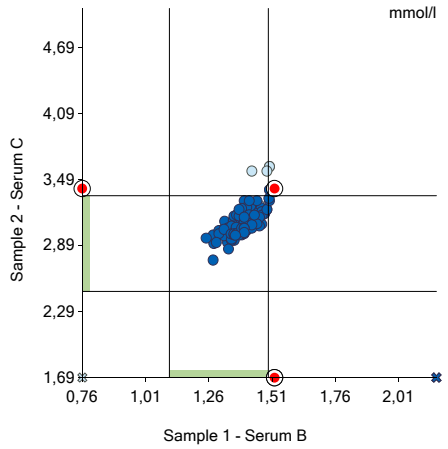
	x	s	u	CV%	n
Own group	1,397	0,046	0,005	3,3	138
All	1,400	0,048	0,005	3,4	144



Own result 3,41 17,2 %
analysed: 13.2.2023

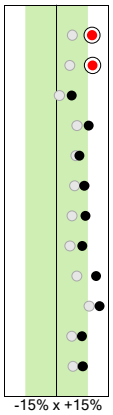
Sample 2 - Serum C
Assigned value (X): 2,91 mmol/l, X_T
Target limits (X ± 15%): 2,47 - 3,35 mmol/l

	x	s	u	CV%	n
Own group	3,093	0,097	0,010	3,1	134
All	3,099	0,104	0,011	3,4	140

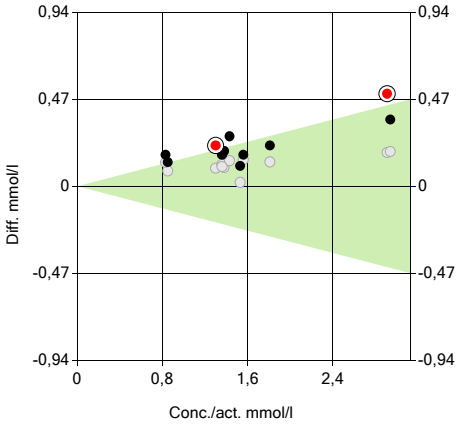


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 2	1,30	1,52	16,9	2,7
23/01	SeL 2	2,91	3,41	17,2	3,3
22/06	DdA 2	1,53	1,64	7,2	1,7
22/06	InB 2	0,85	0,98	15,3	1,0
22/05	DeZ 2	1,56	1,73	10,9	0,4
22/05	InA 2	1,36	1,54	13,2	1,2
22/04	DDD 2	1,38	1,57	13,8	1,3
22/04	SeL 2	2,94	3,30	12,2	1,6
22/03	DdA 2	1,43	1,70	18,9	2,5
22/03	InB 2	0,83	1,00	20,5	0,8
22/02	DeQ 2	1,81	2,03	12,2	1,4
22/02	InA 2	1,36	1,53	12,5	1,1
22/01	DeK 2	1,54	1,72	11,7	1,3



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

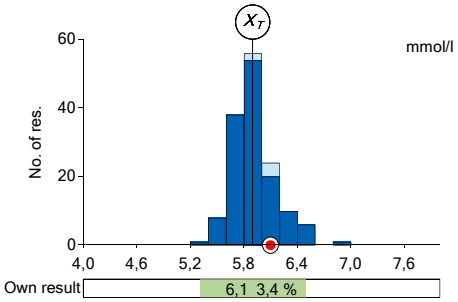
The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Urea

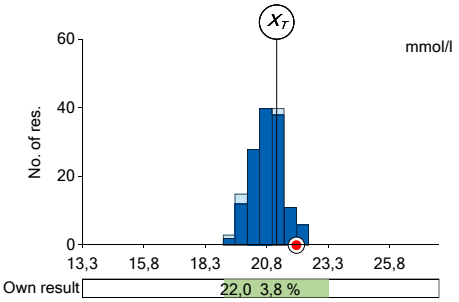
0006 | Dimension Vista | 014 | Photometry, enzymatic | 2 | Siemens Dimension | 180



Own result 6,1 3,4 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 5,9 mmol/l, X_T
Target limits (X ± 10%): 5,3 - 6,5 mmol/l

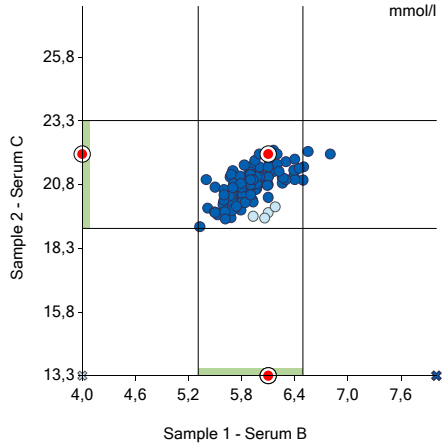
	x	s	u	CV%	n
Own group	5,87	0,22	0,02	3,7	138
All	5,88	0,22	0,02	3,8	144



Own result 22,0 3,8 %
analysed: 13.2.2023

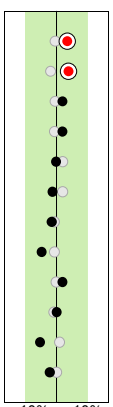
Sample 2 - Serum C
Assigned value (X): 21,2 mmol/l, X_T
Target limits (X ± 10%): 19,1 - 23,3 mmol/l

	x	s	u	CV%	n
Own group	20,79	0,61	0,07	2,9	137
All	20,77	0,64	0,07	3,1	143

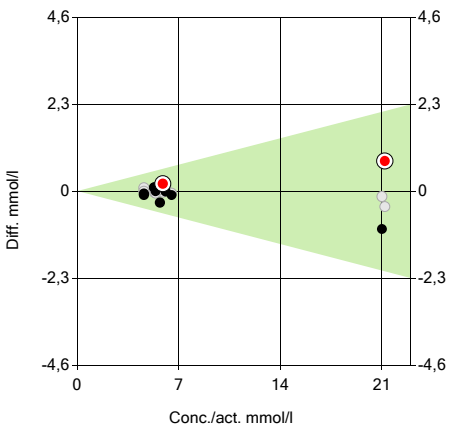


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 2	5,9	6,1	3,4	1,0
23/01	SeL 2	21,2	22,0	3,8	2,0
22/06	DdA 2	5,3	5,4	1,9	0,5
22/06	InB 2	5,4	5,5	1,9	0,5
22/05	DeZ 2	6,1	6,1	-0,2	-0,4
22/05	InA 2	4,6	4,5	-1,3	-0,7
22/04	DDD 2	6,5	6,4	-1,5	-0,2
22/04	SeL 2	21,0	20,0	-4,8	-1,3
22/03	DdA 2	5,3	5,4	1,9	0,5
22/03	InB 2	5,4	5,4	0,0	0,2
22/02	DeQ 2	5,7	5,4	-5,3	-1,2
22/02	InA 2	4,6	4,5	-2,2	-0,5
22/01	DeK 2	5,4	5,6	3,7	0,8



Conc./act. dependent performance



Comments

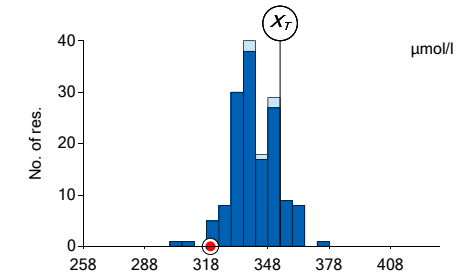
Sample 1 - Serum B, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

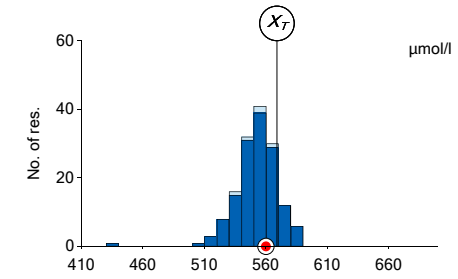
Uric acid
0013 | Dimension Vista | 014 | Photometry, enzymatic | 2 | Siemens Dimension | 180



Own result 320 -9,6 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 354 µmol/l, X_T
Target limits (X ± 8%): 326 - 382 µmol/l

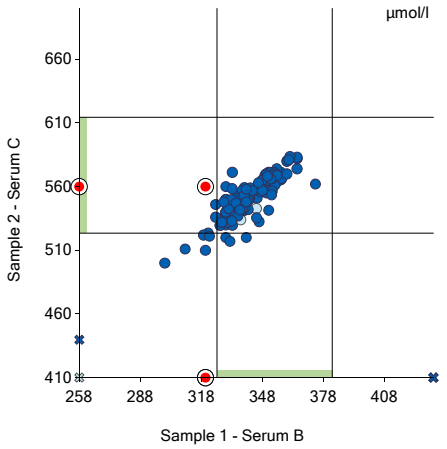
	x	s	u	CV%	n
Own group	341,6	11,5	1,2	3,4	149
All	341,8	11,4	1,1	3,3	154



Own result 560 -1,6 %
analysed: 13.2.2023

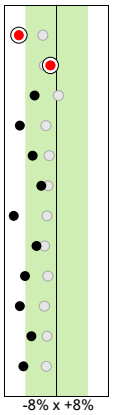
Sample 2 - Serum C
Assigned value (X): 569 µmol/l, X_T
Target limits (X ± 8%): 523 - 615 µmol/l

	x	s	u	CV%	n
Own group	551,2	16,1	1,7	2,9	148
All	551,2	15,9	1,6	2,9	153

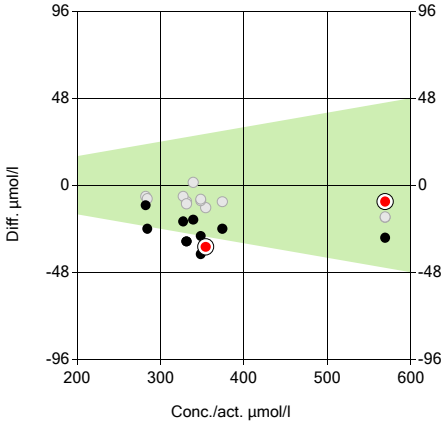


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 2	354	320	-9,6	-1,9
23/01	SeL 2	569	560	-1,6	0,5
22/06	DdA 2	339	320	-5,6	-1,6
22/06	InB 2	331	300	-9,4	-1,7
22/05	DeZ 2	327	307	-6,1	-0,9
22/05	InA 2	282	271	-3,9	-0,4
22/04	DDD 2	348	310	-10,9	-2,1
22/04	SeL 2	569	540	-5,1	-0,6
22/03	DdA 2	348	320	-8,0	-1,6
22/03	InB 2	331	300	-9,4	-1,7
22/02	DeQ 2	374	350	-6,4	-1,0
22/02	InA 2	284	260	-8,5	-1,5
22/01	DeK 2	324	300	-7,4	-1,4



Conc./act. dependent performance



Comments

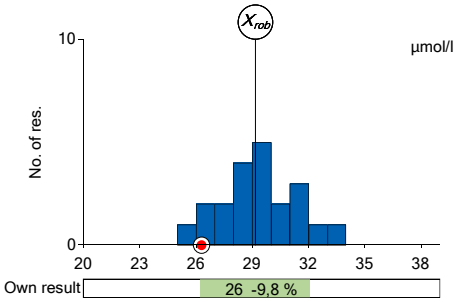
Sample 1 - Serum B, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

Sample 2 - Serum C, Own group:

The assigned value (Xref) is the reference method value and its uncertainty is given in the report letter.

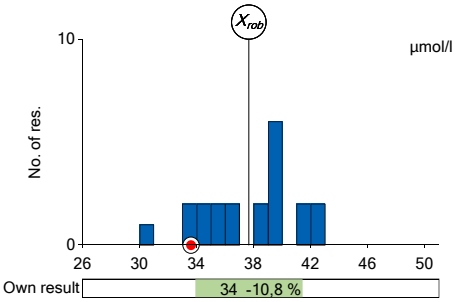
Zn
0041 | Dimension Vista | 014 | Photometry | 1 | BEN Biochemical Enterprise | 779



Own result 26 -9,8 %
analysed: 13.2.2023

Sample 1 - Serum B
Assigned value (X): 29 µmol/l, X_{rob}
Target limits (X ± 10%): 26 - 32 µmol/l

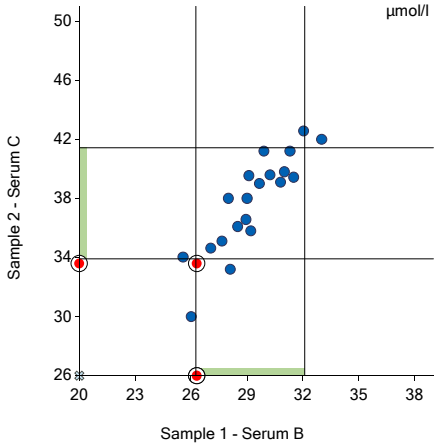
	x	s	u	CV%	n
Own group	29,2	2,2	0,6	7,6	21
All	29,2	2,2	0,6	7,6	21



Own result 34 -10,8 %
analysed: 13.2.2023

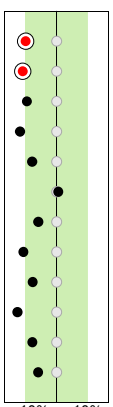
Sample 2 - Serum C
Assigned value (X): 38 µmol/l, X_{rob}
Target limits (X ± 10%): 34 - 41 µmol/l

	x	s	u	CV%	n
Own group	37,7	3,5	0,9	9,2	21
All	37,7	3,5	0,9	9,2	21

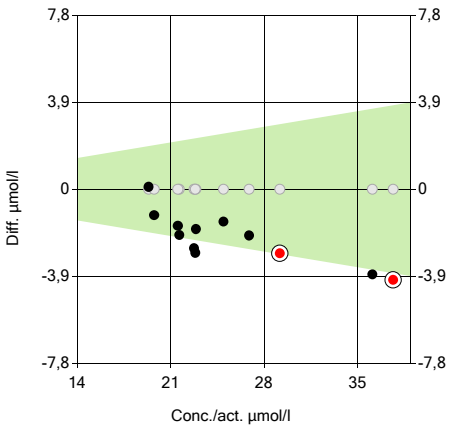


Previous results

Round	Sample	X	Own	Diff%	z
23/01	DDB 1	29	26	-9,8	-1,3
23/01	SeL 1	38	34	-10,8	-1,2
22/06	DdA 1	22	20	-9,5	-1,3
22/06	InB 1	23	20	-11,6	-1,4
22/05	DeZ 1	23	21	-7,8	-1,0
22/05	InA 1	19	19	0,6	0,1
22/04	DDD 1	25	24	-5,8	-0,5
22/04	SeL 1	36	32	-10,6	-1,0
22/03	DdA 1	22	20	-7,6	-0,8
22/03	InB 1	23	20	-12,5	-1,3
22/02	DeQ 1	27	25	-7,7	-0,9
22/02	InA 1	20	19	-5,9	-0,6
22/01	DeK 1	17	17	-2,0	-0,2



Conc./act. dependent performance



Comments

Sample 1 - Serum B, Own group:

The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Sample 2 - Serum C, Own group:

The standard uncertainty of the assigned value (Xrob) is 1.25 x standard error of the mean (SEM) and marked as 'u'.

Participants

176 participants from 14 countries.

Report info

Robust analysis, serum B and C

Your own result should be compared to others using the same method.. Pleaes note that the target value might be a calculated value (Xrob or Xpt), transferred value (Xt) or a reference method value (Xref). The target value is marked in the client histogram. In case a reference method value is used, the uncertainty and the measurement method is given in the report letter.

The assigned values are calculated according to the robust procedure described in the standard ISO 13528 (Statistical methods for use in proficiency testing by interlaboratory comparisons, Annex C, Algorithm A). The standard uncertainty of the assigned value is expressed as 1.25 x the standard error of mean (SEM) and marked as “u” in numerical summary. Due to its iterative mode algorithm A adds the uncertainty of the assigned value and with this factor we want to adjust uncertainty accordingly. Please notice also that for groups that have only 1 result only the client’s own result is shown. No target value (except for reference method values or transferred values) is calculated, no target areas are shown. In case there are 2-12 results in a method group, the robust calculation is not used but a calculation where results deviating more than +/- 3*standard deviation SD from the median are removed.

The design of this scheme is different in the establishment and use of assigned values (the value used in the calculation of your measurement deviation). In this scheme we use transferred values from NFKK Reference Serum X (below referred to as RSX) as assigned values for 16 components (not for Vitros methods) that are marked in the report letter. Five laboratories measure sample 1, sample 2 and RSX in triplicates. The transferred values (T) for the two EQA samples are then calculated as:

T = (mean of sample) x (Certified value for RSX) / (mean of RSX)

Further calculations are made on these values after testing for outliers with a Q-test. The mean of the transferred values from the 5 transferring laboratories is used as the “Transferred value” (T in client histograms). The standard uncertainty (u) is calculated as SEM (standard error of mean) of the values (i.e. the uncertainty of the certified value for RSX is ignored).

The standard uncertainty (u) of the assigned value is reported as standard error of the mean (SEM). Additionally, if the measurement uncertainty of the target value is too large (u > 0.1 * maximum allowable error) an automatic text is printed on the report: “The uncertainty of the assigned value is not negligible, and evaluations could be affected.” In case there are 2-5 results in a method group, no z-score is calculated, and a text is printed on the report: “Due to the small number of results, the z score is not calculated.” In case there are 6-12 results, the report has a text: “Z score is uncertain due to the small number of observations.”

Results reported with < tai > -signs cannot be included in the statistics.

For information on report interpretation and performance evaluation, please see the " EQAS Interpretation guidelines" in LabScala User instructions (top right corner ?Help link).

NUMERICAL SUMMARY **Serum B and C, general clinical chemistry 2023/01**

Analyte / Method group	x	med	s	CV%	u	Min	Max	Man.	Ob.	Excl.	Number
Sample 001											
A1Glypr, g/l											
Siemens nephelometry	0,760	0,76	-	-	-	-	-		0	0	1
Turbidimetry	0,760	0,75	0,020	2,6	0,008	0,74	0,80		0	0	6
Others	0,849	0,85	-	-	-	-	-		0	0	1
All	**0,765**	**0,76**	**0,026**	**3,4**	**0,009**	**0,74**	**0,85**		**0**	**1**	**8**
Alb, g/l											
Bromcresol green	44,5	45	1,4	3,2	0,2	41	56		1	10	84
Bromcresol purple	42,0	42	1,1	2,5	0,2	40	54		0	6	59
Vitros 250-950 & 5,1 & 4600 & 5600	45,1	45	0,9	1,9	0,4	44	46		0	0	4
Others	44,5	45	0,7	1,6	0,5	44	45		0	0	2
All	**43,5**	**43**	**2,0**	**4,5**	**0,2**	**40**	**56**		**1**	**11**	**149**
ALP, U/l											
AMP methods, calculated to SCE	76,3	79	5,2	6,8	2,3	67	79		0	0	5
IFCC (2011)	77,0	76	3,6	4,7	0,7	69	85		0	6	42
IFCC comparable methods (AMP)	78,0	78	2,5	3,2	0,3	43	88		3	18	95
Vitros 250-950 and 5,1, calculated to IFCC	75,4	76	2,1	2,7	1,0	73	77		0	0	4
Others	75,8	76	0,4	0,5	0,3	76	76		0	0	2
All	**77,5**	**78**	**3,0**	**3,9**	**0,2**	**43**	**88**		**3**	**21**	**148**
ALT, U/l											
IFCC comparable methods	53,6	54	4,1	7,7	0,5	43	65		4	13	124
IFCC comparable methods without P-5-P	44,5	43	4,5	10,2	1,3	40	55		0	2	19
Vitros 250-950 & 5,1 & 4600 & 5600	48,7	48	1,6	3,4	0,8	47	51		0	0	4
Others	51,4	51	2,3	4,4	1,6	50	53		0	0	2
All	**52,6**	**53**	**4,8**	**9,1**	**0,4**	**40**	**65**		**4**	**21**	**149**
Amyl, U/l											
Different methods calculated to IFCC	46,1	47	4,5	9,8	1,3	39	51		2	1	19
IFCC comparable methods	48,8	48	2,5	5,2	0,4	24	54		0	9	67
Others	53,0	53	-	-	-	-	-		0	0	1
All	**48,4**	**48**	**2,9**	**6,1**	**0,3**	**24**	**54**		**2**	**14**	**87**
AmylP, U/l											
IFCC comparable methods	24,0	24	1,1	4,5	0,2	22	28		1	14	59
Others	33,8	34	13,9	41,3	9,9	24	44		0	0	2
All	**24,0**	**24**	**1,1**	**4,6**	**0,1**	**22**	**44**		**1**	**15**	**61**
Antitry, g/l											
Other nephelometry	1,40	1,4	-	-	-	-	-		0	0	1
Siemens nephelometry	1,35	1,3	0,09	6,4	0,05	1,3	1,5		0	0	3
Turbidimetry	1,44	1,4	0,05	3,3	0,01	1,4	1,6		0	3	24
All	**1,43**	**1,4**	**0,05**	**3,7**	**0,01**	**1,3**	**1,6**		**0**	**3**	**28**
AST, U/l											
IFCC comparable methods	43,0	43	2,3	5,4	0,3	36	54		4	12	96
IFCC comparable methods without P-5-P	36,0	36	2,0	5,7	0,6	34	41		0	2	18
Vitros 250-950 & 5,1 & 4600 & 5600	45,9	46	0,8	1,7	0,4	45	46		0	0	4
Others	41,4	41	0,5	1,2	0,3	41	42		0	0	2
All	**42,2**	**43**	**3,3**	**7,8**	**0,3**	**34**	**54**		**4**	**22**	**120**
Bil, µmol/l											
Blood-gas instruments	14,00	14,0	-	-	-	-	-		0	0	1
Photometry	10,13	10,0	2,04	20,1	0,22	4,3	14,2		5	13	128

NUMERICAL SUMMARY **Serum B and C, general clinical chemistry 2023/01, Sample 001**

Analyte / Method group	x	med	s	CV%	u	Min	Max	Man.	Lob.	Excl.	Number
Bil, µmol/l											
Photometry (Beckman Coulter)	12,83	12,8	-	-	-	-	-	0	0		1
Vitros 250-950 & 5,1 & 4600 & 5600	11,00	11,0	-	-	-	-	-	0	0		1
Others	11,29	11,3	2,43	21,5	1,72	9,6	13,0	0	0		2
All	**10,20**	**10,0**	**2,06**	**20,2**	**0,18**	**4,3**	**14,2**	**5**	**15**		**133**
Ca, mmol/l											
Photometry	2,386	2,39	0,046	1,9	0,005	2,23	3,10	0	23		141
Vitros 250-950 & 5,1 & 4600 & 5600	2,315	2,32	0,028	1,2	0,014	2,28	2,35	0	0		4
Others	2,420	2,42	0,057	2,3	0,040	2,38	2,46	0	0		2
All	**2,384**	**2,38**	**0,048**	**2,0**	**0,004**	**2,23**	**3,10**	**0**	**23**		**147**
Ca-Ion, mmol/l											
Calculated	1,106	1,07	0,082	7,4	0,047	1,05	1,20	0	0		3
ISE direct	1,130	1,15	0,038	3,3	0,010	0,94	1,20	0	2		21
Others	1,110	1,11	0,042	3,8	0,030	1,08	1,14	0	0		2
All	**1,126**	**1,14**	**0,045**	**4,0**	**0,009**	**0,94**	**1,20**	**0**	**4**		**26**
Ca-ion,pH7.4, mmol/l											
ISE direct	1,195	1,19	0,038	3,2	0,010	0,94	2,30	0	3		24
Others	1,171	1,18	0,044	3,8	0,026	1,12	1,21	0	0		3
All	**1,192**	**1,19**	**0,038**	**3,2**	**0,007**	**0,94**	**2,30**	**0**	**4**		**27**
Chol, mmol/l											
Photometry, enzymatic	4,58	4,6	0,10	2,2	0,01	4,3	5,9	0	22		141
Vitros 250-950 & 5,1 & 4600 & 5600	4,76	4,8	0,05	1,1	0,03	4,7	4,8	0	0		4
Others	4,55	4,6	0,07	1,6	0,05	4,5	4,6	0	0		2
All	**4,58**	**4,6**	**0,10**	**2,3**	**0,01**	**4,3**	**5,9**	**0**	**24**		**147**
Chol-HDL, mmol/l											
Direct Chol-HDL, Abbott	1,235	1,23	0,056	4,6	0,013	1,17	1,87	1	3		30
Direct Chol-HDL, Beckman Coulter	1,176	1,14	0,111	9,4	0,045	1,06	1,33	0	0		6
Direct Chol-HDL, other methods	1,168	1,17	0,117	10,0	0,082	1,09	1,25	0	0		2
Direct Chol-HDL, Roche systems	1,150	1,15	0,033	2,9	0,005	1,07	1,56	0	13		65
Direct Chol-HDL, Siemens	1,167	1,17	0,048	4,1	0,012	1,10	1,27	1	2		27
Direct Chol-HDL, Thermo Scientific Konelab	1,150	1,15	0,010	0,9	0,006	1,14	1,16	0	0		3
Vitros 250-950 & 5,1 & 4600 & 5600	1,230	1,23	0,050	4,1	0,029	1,18	1,28	1	0		3
Others	1,150	1,15	-	-	-	-	-	0	0		1
All	**1,172**	**1,17**	**0,054**	**4,6**	**0,005**	**1,06**	**1,87**	**3**	**19**		**137**
Chol-LDL, mmol/l											
Direct Chol-LDL , Beckman Coulter	2,917	2,92	0,307	10,5	0,217	2,70	3,13	0	0		2
Direct Chol-LDL, Abbott	3,190	3,20	0,098	3,1	0,024	2,99	3,51	1	5		26
Direct Chol-LDL, other methods	3,100	3,10	-	-	-	-	-	0	0		1
Direct Chol-LDL, Roche-systems	2,655	2,65	0,063	2,4	0,011	2,50	3,71	0	10		52
Direct Chol-LDL, Siemens	3,272	3,21	0,248	7,6	0,075	3,00	3,80	0	0		11
Direct Chol-LDL, Thermo Scientific Konelab	2,750	2,75	-	-	-	-	-	0	0		1
Friedewald's formula	2,761	2,73	0,146	5,3	0,038	2,56	3,24	0	4		23
Vitros 250-950 & 5,1 & 4600 & 5600	2,983	2,97	0,051	1,7	0,030	2,94	3,04	0	0		3
Others	2,730	2,73	-	-	-	-	-	0	0		1
All	**2,866**	**2,74**	**0,293**	**10,2**	**0,027**	**2,50**	**3,80**	**1**	**8**		**120**
CK, U/l											
IFCC comparable methods	163,3	163	4,7	2,9	0,5	152	179	3	18		131
Vitros 250-950 & 5,1 & 4600 & 5600	156,1	156	10,0	6,4	7,1	149	163	0	0		2
Others	161,0	161	8,5	5,3	6,0	155	167	0	0		2
All	**163,2**	**163**	**4,7**	**2,9**	**0,4**	**149**	**179**	**3**	**20**		**135**
Cl, mmol/l											

NUMERICAL SUMMARY **Serum B and C, general clinical chemistry 2023/01, Sample 001**

Analyte Method group	x	med	s	CV%	u	Min	Max	Man.	ob.	Excl.	Number
Cl, mmol/l											
ISE direct	101,8	101	2,0	2,0	0,9	100	104	0		0	5
ISE indirect	100,1	100	2,4	2,4	0,3	95	125	0		12	104
Vitros 250-950 & 5,1 & 4600 & 5600	102,6	103	-	-	-	-	-	0		0	1
Others	103,0	103	1,4	1,4	1,0	102	104	0		0	2
All	**100,3**	**100**	**2,5**	**2,5**	**0,2**	**95**	**125**	**0**		**9**	**112**
Cortisol, nmol/l											
Other methods	314,3	301	43,3	13,8	15,3	275	413	0		0	8
Roche systems	333,7	334	9,4	2,8	3,3	289	345	0		2	13
Siemens Advia Centaur & ACS	335,7	336	-	-	-	-	-	0		0	1
All	**322,7**	**333**	**24,9**	**7,7**	**5,3**	**275**	**413**	**0**		**2**	**22**
Crea, µmol/l											
Amperometry	87,0	86	2,6	3,0	1,5	85	90	0		0	3
Photometry, enzymatic	79,6	80	3,2	4,0	0,4	73	103	3		18	127
Photometry, Jaffe	81,6	80	5,7	7,0	1,4	70	103	0		3	25
Vitros 250-950 & 5,1 & 4600 & 5600	79,7	79	0,9	1,2	0,5	79	81	0		0	4
Others	81,0	81	2,9	3,6	2,1	79	83	0		0	2
All	**80,0**	**80**	**3,6**	**4,5**	**0,3**	**70**	**103**	**3**		**20**	**161**
Cu, µmol/l											
Photometry	15,14	15,9	1,93	12,8	0,97	12,3	16,5	0		0	4
All	**15,14**	**15,9**	**2,19**	**14,5**	**1,09**	**12,3**	**16,5**	**0**		**0**	**4**
Fe, µmol/l											
Photometry	18,91	19,0	0,55	2,9	0,06	17,8	21,3	3		24	123
Vitros 250-950 & 5,1 & 4600 & 5600	20,84	20,8	0,14	0,7	0,08	20,7	21,0	0		0	3
Others	18,85	18,9	0,21	1,1	0,15	18,7	19,0	0		0	2
All	**18,94**	**19,0**	**0,57**	**3,0**	**0,05**	**17,8**	**21,3**	**3**		**26**	**128**
Ferritin, µg/l											
Abbott	65,4	66	2,4	3,6	0,8	60	68	0		1	15
Abbott Architect	60,7	63	11,6	19,2	4,4	36	72	1		0	7
Other methods	57,3	56	8,0	14,0	4,0	51	67	0		0	4
Roche systems	71,8	72	2,7	3,7	0,7	65	76	0		3	23
Siemens Advia Centaur & ACS	47,1	47	1,2	2,6	0,9	46	48	0		0	2
Siemens Advia Centaur & Atellica	42,0	42	-	-	-	-	-	0		0	1
Thermo Scientific Konelab	41,1	41	-	-	-	-	-	0		0	1
Turbidimetry	70,6	71	5,7	8,1	1,6	55	79	0		3	20
Vitros Systems	38,5	39	0,7	1,8	0,5	38	39	0		0	2
Others	74,3	74	-	-	-	-	-	0		0	1
All	**67,5**	**69**	**6,8**	**10,0**	**0,8**	**36**	**79**	**1**		**11**	**76**
Glucose, mmol/l											
Amperometry	6,80	6,8	0,10	1,5	0,06	6,7	6,9	0		0	3
Photometry	6,97	7,0	0,14	1,9	0,01	6,4	7,7	3		24	146
Vitros 250-950 & 5,1 & 4600 & 5600	7,17	7,2	0,10	1,3	0,05	7,1	7,3	0		0	4
Others	6,79	6,8	0,01	0,2	0,01	6,8	6,8	0		0	2
All	**6,97**	**7,0**	**0,14**	**2,1**	**0,01**	**6,4**	**7,7**	**3**		**27**	**155**
GT, U/l											
GLUCANA-Tris, original level	36,3	36	4,9	13,5	2,4	32	41	0		0	4
IFCC comparable methods	39,4	39	1,9	4,7	0,2	27	47	4		17	136
Vitros 250-950 & 5,1 & 4600 & 5600	38,3	38	0,9	2,3	0,4	38	40	0		0	4
Others	43,0	43	-	-	-	-	-	0		0	1
All	**39,4**	**39**	**1,9**	**4,8**	**0,2**	**27**	**47**	**4**		**20**	**145**
Haptog, g/l											
Siemens nephelometry	1,325	1,30	0,042	3,2	0,017	1,30	1,40	0		0	6

NUMERICAL SUMMARY **Serum B and C, general clinical chemistry 2023/01, Sample 001**

Analyte / Method group	x	med	s	CV%	u	Min	Max	Man.	Lob.	Excl.	Number
Haptog, g/l											
Turbidimetry	1,293	1,29	0,031	2,4	0,005	1,08	1,40	0		11	51
Others	1,340	1,34	-	-	-	-	-	0		0	1
All	**1,297**	**1,30**	**0,032**	**2,5**	**0,004**	**1,08**	**1,40**	**0**		**9**	**58**
IgA, g/l											
Siemens nephelometry	2,87	2,9	0,05	1,8	0,02	2,8	2,9	0		0	6
Turbidimetry	2,86	2,9	0,07	2,6	0,01	2,7	3,1	1		9	55
All	**2,86**	**2,9**	**0,07**	**2,4**	**0,01**	**2,7**	**3,1**	**1**		**11**	**61**
IgE, kU/l											
Abbott	91,8	79	24,5	26,7	14,1	77	120	0		0	3
Other methods	103,0	103	-	-	-	-	-	0		0	1
Roche systems	127,6	128	3,0	2,4	1,2	123	131	0		0	6
Siemens Advia Centaur & ACS	106,0	106	-	-	-	-	-	0		0	1
Siemens Immulite	119,0	118	10,5	8,9	6,1	109	130	0		0	3
Thermo Fisher Scientific Phadia	117,4	113	10,5	8,9	3,7	108	139	0		0	8
All	**117,5**	**119**	**12,6**	**10,8**	**2,7**	**77**	**139**	**0**		**3**	**22**
IgG, g/l											
Siemens nephelometry	10,47	10,4	0,45	4,3	0,19	10,0	11,0	0		0	6
Turbidimetry	10,30	10,3	0,26	2,6	0,04	8,9	13,9	1		8	59
Others	10,60	10,6	-	-	-	-	-	0		0	1
All	**10,31**	**10,3**	**0,28**	**2,7**	**0,03**	**8,9**	**13,9**	**1**		**8**	**66**
IgM, g/l											
Siemens nephelometry	1,07	1,1	0,05	4,7	0,02	1,0	1,1	0		0	6
Turbidimetry	1,01	1,0	0,03	3,0	0,00	0,9	1,2	2		11	58
All	**1,01**	**1,0**	**0,03**	**3,3**	**0,00**	**0,9**	**1,2**	**2**		**10**	**64**
K, mmol/l											
ISE direct	7,57	7,6	0,11	1,4	0,03	7,4	7,9	0		3	18
ISE indirect	7,72	7,7	0,10	1,3	0,01	5,9	8,6	0		18	141
Vitros 250-950 & 5,1 & 4600 & 5600	7,74	7,7	0,07	0,9	0,04	7,7	7,8	0		0	4
Others	7,70	7,7	-	-	-	-	-	0		0	1
All	**7,70**	**7,7**	**0,11**	**1,4**	**0,01**	**5,9**	**8,6**	**0**		**24**	**164**
Lactate, mmol/l											
Amperometry, others	8,49	8,4	0,24	2,8	0,14	8,3	8,8	0		0	3
Amperometry, Radiometer	8,32	8,4	0,42	5,0	0,14	7,2	9,6	0		3	14
Photometry, enzymatic	8,47	8,4	0,23	2,8	0,06	6,9	9,5	2		4	23
Vitros 250-950 & 5,1 & 4600 & 5600	8,97	9,0	0,13	1,4	0,07	8,8	9,1	0		0	3
Others	8,50	8,5	-	-	-	-	-	0		0	1
All	**8,47**	**8,4**	**0,31**	**3,7**	**0,05**	**6,9**	**9,6**	**2**		**8**	**44**
LD, U/l											
IFCC comparable methods	177,3	178	8,4	4,7	0,9	137	199	3		23	127
SCE-, DGKC-, SFBC-recommendations	173,2	174	1,9	1,1	0,9	170	175	0		0	5
Vitros 250-950 and 5,1, calculated to IFCC level	175,0	174	2,8	1,6	1,6	173	178	0		0	3
Vitros 250-950 and 5,1, original level	175,0	175	-	-	-	-	-	0		0	1
Others	175,0	175	8,5	4,8	6,0	169	181	0		0	2
All	**177,1**	**177**	**8,0**	**4,5**	**0,7**	**137**	**199**	**3**		**25**	**138**
Lipase, U/l											
Photometry	39,60	41,0	5,20	13,1	1,73	30,0	44,8	0		0	9
Photometry, chemical	42,27	42,0	0,64	1,5	0,37	41,8	43,0	0		0	3
Photometry, enzymatic	42,93	42,5	2,77	6,5	0,57	38,1	71,0	0		4	37
Vitros 250-950 & 5,1 & 4600 & 5600	158,00	157,8	2,71	1,7	1,56	155,4	160,8	0		0	3

NUMERICAL SUMMARY **Serum B and C, general clinical chemistry 2023/01, Sample 001**

Analyte / Method group	x	med	s	CV%	u	Min	Max	Man.Rej.	Lab.Excl.	Number
Lipase, U/l										
Others	41,41	41,2	1,50	3,6	0,86	40,0	43,0	0	0	3
All	**42,76**	**42,5**	**2,93**	**6,9**	**0,40**	**30,0**	**160,8**	**0**	**10**	**55**
Mg, mmol/l										
Photometry	0,864	0,87	0,026	3,0	0,003	0,78	0,94	3	17	125
Vitros 250-950 & 5,1 & 4600 & 5600	0,847	0,85	0,018	2,2	0,009	0,82	0,86	0	0	4
Others	0,855	0,86	0,021	2,5	0,015	0,84	0,87	0	0	2
All	**0,864**	**0,87**	**0,026**	**3,0**	**0,002**	**0,78**	**0,94**	**3**	**18**	**131**
Na, mmol/l										
ISE direct	136,6	136	1,9	1,4	0,6	134	141	0	3	18
ISE indirect	137,0	137	1,2	0,9	0,1	133	154	0	28	141
Vitros 250-950 & 5,1 & 4600 & 5600	136,6	137	0,9	0,6	0,4	135	137	0	0	4
Others	139,0	139	-	-	-	-	-	0	0	1
All	**137,0**	**137**	**1,3**	**1,0**	**0,1**	**133**	**154**	**0**	**34**	**164**
Osmol, mosm/kg										
All	298,5	299	3,1	1,0	0,6	291	409	0	3	41
Others	295,0	295	11,3	3,8	8,0	287	303	0	0	2
All	**298,5**	**299**	**3,3**	**1,1**	**0,5**	**287**	**409**	**0**	**4**	**43**
Pi, mmol/l										
Photometry	1,075	1,07	0,032	3,0	0,004	0,98	1,20	5	18	131
Vitros 250-950 & 5,1 & 4600 & 5600	1,155	1,17	0,037	3,2	0,018	1,10	1,18	0	0	4
Others	1,095	1,10	0,064	5,8	0,045	1,05	1,14	0	0	2
All	**1,077**	**1,08**	**0,034**	**3,2**	**0,003**	**0,98**	**1,20**	**5**	**22**	**137**
Prot, g/l										
Photometry	69,0	69	1,4	2,0	0,2	62	92	1	12	121
Others	69,0	69	1,5	2,2	1,0	68	70	0	0	2
All	**69,0**	**69**	**1,4**	**2,0**	**0,1**	**62**	**92**	**1**	**12**	**123**
T3, nmol/l										
Abbott	1,53	1,5	0,04	2,3	0,03	1,5	1,6	0	0	2
Other methods	1,99	2,0	-	-	-	-	-	0	0	1
Roche systems	1,57	1,7	0,35	22,1	0,12	1,1	2,0	0	0	8
All	**1,60**	**1,6**	**0,36**	**22,6**	**0,11**	**1,1**	**2,0**	**0**	**0**	**11**
T4, nmol/l										
Abbott	89,1	89	3,0	3,3	2,1	87	91	0	0	2
Roche systems	96,3	98	4,5	4,7	1,5	87	101	0	0	9
All	**95,0**	**98**	**5,8**	**6,1**	**1,7**	**87**	**101**	**0**	**0**	**11**
T4 free, pmol/l										
Abbott Architect	12,72	12,8	0,55	4,3	0,15	11,9	20,2	0	3	21
Beckman Coulter Access	13,29	13,3	0,95	7,2	0,67	12,6	14,0	0	0	2
Other methods	16,60	16,6	-	-	-	-	-	0	0	1
Roche systems	16,63	16,6	0,53	3,2	0,11	15,1	18,0	0	5	35
Siemens Advia Centaur & ACS	14,72	14,7	0,15	1,0	0,09	14,6	14,9	0	0	3
Others	16,00	16,0	-	-	-	-	-	0	0	1
All	**15,30**	**16,1**	**2,25**	**14,7**	**0,28**	**11,9**	**20,2**	**0**	**3**	**63**
TfR, mg/l										
Roche systems	4,02	4,0	0,11	2,7	0,04	3,9	4,2	1	0	9
Siemens nephelometry	1,63	1,7	0,16	10,1	0,07	1,4	1,8	0	0	5
Others	1,60	1,6	-	-	-	-	-	0	0	1
All	**3,06**	**3,9**	**1,39**	**45,3**	**0,36**	**1,4**	**4,2**	**1**	**0**	**15**
TIBC, µmol/l										
Calculated from transferrin	74,8	75	2,3	3,0	0,5	58	83	0	3	27

NUMERICAL SUMMARY **Serum B and C, general clinical chemistry 2023/01, Sample 001**

Analyte / Method group	x	med	s	CV%	u	Min	Max	Man.	Lob.	Excl.	Number
TIBC, µmol/l											
Photometry	66,0	66	4,8	7,2	1,5	60	74	1		1	15
Others	74,0	74	-	-	-	-	-	0		0	1
All	**71,7**	**74**	**5,7**	**8,0**	**0,9**	**58**	**83**	**1**		**5**	**43**
Transf, g/l											
Siemens nephelometry	3,02	3,0	0,14	4,6	0,05	2,9	3,3	0		0	8
Turbidimetry	2,98	3,0	0,10	3,3	0,01	2,6	3,6	0		15	102
Others	2,96	3,0	-	-	-	-	-	0		0	1
All	**2,98**	**3,0**	**0,10**	**3,2**	**0,01**	**2,6**	**3,6**	**0**		**17**	**111**
Trigly, mmol/l											
Photometry, enzymatic	1,397	1,40	0,046	3,3	0,005	1,25	1,52	3		26	138
Vitros 250-950 & 5,1 & 4600 & 5600	1,480	1,50	0,034	2,3	0,017	1,43	1,50	0		0	4
Others	1,420	1,42	0,057	4,0	0,040	1,38	1,46	0		0	2
All	**1,400**	**1,40**	**0,048**	**3,4**	**0,004**	**1,25**	**1,52**	**3**		**26**	**144**
TSH, mU/l											
Abbott	1,58	1,6	0,07	4,5	0,02	1,5	1,7	0		2	21
Beckman Coulter Access	1,72	1,7	0,07	4,1	0,05	1,7	1,8	0		0	2
Others	1,90	1,9	-	-	-	-	-	0		0	1
Roche systems	1,85	1,9	0,07	3,9	0,02	1,5	2,0	1		5	35
Siemens Advia Centaur & ACS	1,79	1,8	0,03	1,7	0,02	1,8	1,8	0		0	3
Siemens Atellica	1,90	1,9	-	-	-	-	-	0		0	1
Others	1,90	1,9	-	-	-	-	-	0		0	1
All	**1,75**	**1,8**	**0,16**	**9,3**	**0,02**	**1,5**	**2,0**	**1**		**3**	**63**
Urea, mmol/l											
Photometry, enzymatic	5,87	5,8	0,22	3,7	0,02	5,3	6,8	3		22	138
Vitros 250-950 & 5,1 & 4600 & 5600	6,07	6,1	0,10	1,7	0,05	5,9	6,2	0		0	4
Others	6,05	6,0	0,08	1,3	0,06	6,0	6,1	0		0	2
All	**5,88**	**5,9**	**0,22**	**3,8**	**0,02**	**5,3**	**6,8**	**3**		**22**	**144**
Uric acid, µmol/l											
Photometry, enzymatic	341,6	340	11,5	3,4	1,2	207	569	0		20	149
Vitros 250-950 & 5,1 & 4600 & 5600	345,0	345	7,7	2,2	4,4	337	353	0		0	3
Others	346,5	347	7,8	2,2	5,5	341	352	0		0	2
All	**341,8**	**340**	**11,4**	**3,3**	**0,9**	**207**	**569**	**0**		**20**	**154**
Zn, µmol/l											
Photometry	29,2	29	2,2	7,6	0,6	26	33	0		2	21
All	**29,2**	**29**	**2,2**	**7,6**	**0,5**	**26**	**33**	**0**		**2**	**21**

Sample 002

Analyte / Method group	x	med	s	CV%	u	Min	Max	Man.	Lob.	Excl.	Number
A1Glypr, g/l											
Siemens nephelometry	1,090	1,09	-	-	-	-	-	0		0	1
Turbidimetry	0,989	0,99	0,020	2,0	0,008	0,97	1,02	0		0	6
Others	1,084	1,08	-	-	-	-	-	0		0	1
All	**1,013**	**1,00**	**0,055**	**5,4**	**0,019**	**0,97**	**1,09**	**0**		**0**	**8**
Alb, g/l											
Bromcresol green	56,5	57	1,7	3,1	0,2	45	59	1		9	84
Bromcresol purple	53,8	54	1,4	2,6	0,2	43	60	0		10	59
Vitros 250-950 & 5,1 & 4600 & 5600	53,6	54	1,3	2,4	0,6	52	55	0		0	4
Others	56,4	56	0,8	1,5	0,6	56	57	0		0	2
All	**55,3**	**55**	**2,3**	**4,2**	**0,2**	**43**	**60**	**1**		**11**	**149**
ALP, U/l											
AMP methods, calculated to SCE	434,5	442	23,3	5,4	10,4	402	459	0		0	5
IFCC (2011)	363,5	358	20,9	5,8	4,1	336	416	1		7	41

NUMERICAL SUMMARY **Serum B and C, general clinical chemistry 2023/01, Sample 002**

Analyte / Method group	x	med	s	CV%	u	Min	Max	Man.	Lob.	Excl.	Number
ALP, U/l											
IFCC comparable methods (AMP)	357,4	357	18,8	5,3	2,4	310	449	4		15	94
Vitros 250-950 and 5,1, calculated to IFCC	340,6	339	6,5	1,9	3,2	335	350	0		0	4
Others	336,0	336	31,1	9,3	22,0	314	358	0		0	2
All	**359,7**	**358**	**20,8**	**5,8**	**1,7**	**310**	**459**	**5**		**27**	**146**
ALT, U/l											
IFCC comparable methods	157,4	158	6,9	4,4	0,8	144	334	3		9	125
IFCC comparable methods without P-5-P	152,6	149	8,7	5,7	2,5	143	178	0		3	19
Vitros 250-950 & 5,1 & 4600 & 5600	148,1	148	1,3	0,9	0,6	147	150	0		0	4
Others	162,5	163	19,1	11,7	13,5	149	176	0		0	2
All	**156,6**	**157**	**7,6**	**4,9**	**0,6**	**143**	**334**	**3**		**16**	**150**
Amyl, U/l											
Different methods calculated to IFCC	428,9	421	43,6	10,2	12,5	352	490	2		1	19
IFCC comparable methods	433,2	423	27,0	6,2	4,1	207	492	0		7	67
Others	469,0	469	-	-	-	-	-	0		0	1
All	**433,1**	**423**	**29,8**	**6,9**	**3,2**	**207**	**492**	**2**		**10**	**87**
AmylP, U/l											
IFCC comparable methods	209,8	210	5,1	2,4	0,8	198	342	1		13	59
Others	308,9	309	144,1	46,7	101,9	207	411	0		0	2
All	**210,0**	**210**	**5,5**	**2,6**	**0,7**	**198**	**411**	**1**		**14**	**61**
Antitry, g/l											
Other nephelometry	1,63	1,6	-	-	-	-	-	0		0	1
Siemens nephelometry	1,81	1,8	0,12	6,6	0,07	1,7	1,9	0		0	3
Turbidimetry	1,72	1,7	0,07	4,1	0,02	1,6	1,9	0		2	24
All	**1,72**	**1,7**	**0,08**	**4,4**	**0,01**	**1,6**	**1,9**	**0**		**3**	**28**
AST, U/l											
IFCC comparable methods	253,0	253	7,7	3,1	1,0	234	294	3		11	97
IFCC comparable methods without P-5-P	253,3	251	9,1	3,6	2,7	243	278	0		2	18
Vitros 250-950 & 5,1 & 4600 & 5600	260,8	261	3,4	1,3	1,7	257	265	0		0	4
Others	263,5	264	20,5	7,8	14,5	249	278	0		0	2
All	**253,4**	**252**	**8,1**	**3,2**	**0,7**	**234**	**294**	**3**		**14**	**121**
Bil, µmol/l											
Blood-gas instruments	107,00	107,0	-	-	-	-	-	0		0	1
Photometry	101,75	99,1	9,70	9,5	1,07	86,0	139,4	5		6	128
Photometry (Beckman Coulter)	107,05	107,0	-	-	-	-	-	0		0	1
Vitros 250-950 & 5,1 & 4600 & 5600	104,00	104,0	-	-	-	-	-	0		0	1
Others	108,60	108,6	21,78	20,1	15,40	93,2	124,0	0		0	2
All	**101,90**	**99,1**	**9,70**	**9,5**	**0,84**	**86,0**	**139,4**	**5**		**8**	**133**
Ca, mmol/l											
Photometry	3,038	3,04	0,065	2,1	0,007	2,37	3,36	0		22	141
Vitros 250-950 & 5,1 & 4600 & 5600	3,075	3,07	0,012	0,4	0,006	3,07	3,09	0		0	4
Others	3,060	3,06	0,057	1,8	0,040	3,02	3,10	0		0	2
All	**3,040**	**3,04**	**0,064**	**2,1**	**0,005**	**2,37**	**3,36**	**0**		**22**	**147**
Ca-Ion, mmol/l											
Calculated	1,202	1,17	0,059	4,9	0,034	1,16	1,27	0		0	3
ISE direct	1,454	1,46	0,062	4,2	0,016	1,30	3,13	0		4	22
Others	1,447	1,44	0,031	2,1	0,018	1,42	1,48	0		0	3
All	**1,438**	**1,44**	**0,075**	**5,2**	**0,014**	**1,16**	**3,13**	**0**		**6**	**28**
Ca-ion,pH7.4, mmol/l											

NUMERICAL SUMMARY **Serum B and C, general clinical chemistry 2023/01, Sample 002**

Analyte / Method group	x	med	s	CV%	u	Min	Max	Man.Rej.	Lob.Excl.	Number
Ca-ion,pH7.4, mmol/l										
ISE direct	1,372	1,37	0,045	3,3	0,011	1,23	2,68	0	5	26
Others	1,483	1,38	0,235	15,8	0,105	1,33	1,90	0	0	5
All	**1,376**	**1,37**	**0,047**	**3,4**	**0,008**	**1,23**	**2,68**	**0**	**3**	**31**
Chol, mmol/l										
Photometry, enzymatic	5,82	5,8	0,14	2,4	0,01	4,6	6,4	0	21	141
Vitros 250-950 & 5,1 & 4600 & 5600	6,46	6,5	0,09	1,3	0,04	6,3	6,5	0	0	4
Others	5,87	5,9	0,04	0,7	0,03	5,8	5,9	0	0	2
All	**5,83**	**5,8**	**0,14**	**2,5**	**0,01**	**4,6**	**6,5**	**0**	**25**	**147**
Chol-HDL, mmol/l										
Direct Chol-HDL, Abbott	1,960	1,96	0,071	3,6	0,016	1,07	3,70	0	5	31
Direct Chol-HDL, Beckman Coulter	1,758	1,72	0,123	7,0	0,050	1,61	1,91	0	0	6
Direct Chol-HDL, other methods	1,835	1,84	0,332	18,1	0,235	1,60	2,07	0	0	2
Direct Chol-HDL, Roche systems	1,578	1,58	0,044	2,8	0,007	1,13	1,67	0	11	66
Direct Chol-HDL, Siemens	1,676	1,68	0,059	3,5	0,014	1,58	2,03	0	6	28
Direct Chol-HDL, Thermo Scientific Konelab	1,577	1,57	0,021	1,3	0,012	1,56	1,60	0	0	3
Vitros 250-950 & 5,1 & 4600 & 5600	1,830	1,82	0,059	3,2	0,030	1,78	1,91	0	0	4
Others	1,600	1,60	-	-	-	-	-	0	0	1
All	**1,688**	**1,62**	**0,178**	**10,5**	**0,015**	**1,07**	**3,70**	**0**	**21**	**141**
Chol-LDL, mmol/l										
Direct Chol-LDL , Beckman Coulter	4,092	4,09	-	-	-	-	-	0	0	1
Direct Chol-LDL, Abbott	3,452	3,50	0,111	3,2	0,027	3,03	3,70	1	5	26
Direct Chol-LDL, other methods	3,952	3,95	-	-	-	-	-	0	0	1
Direct Chol-LDL, Roche-systems	3,771	3,76	0,089	2,4	0,015	2,64	4,04	0	7	52
Direct Chol-LDL, Siemens	3,659	3,54	0,407	11,1	0,129	3,20	4,30	0	0	10
Direct Chol-LDL, Thermo Scientific Konelab	3,740	3,74	-	-	-	-	-	0	0	1
Friedewald's formula	2,600	2,60	0,228	8,8	0,062	1,47	3,00	0	3	21
Vitros 250-950 & 5,1 & 4600 & 5600	3,350	3,30	0,123	3,7	0,071	3,26	3,49	0	0	3
Others	3,850	3,85	-	-	-	-	-	0	0	1
All	**3,505**	**3,65**	**0,426**	**12,2**	**0,040**	**1,47**	**4,30**	**1**	**21**	**116**
CK, U/l										
IFCC comparable methods	423,1	422	12,3	2,9	1,3	388	460	3	22	131
Vitros 250-950 & 5,1 & 4600 & 5600	413,3	413	14,6	3,5	10,3	403	424	0	0	2
Others	412,0	412	18,4	4,5	13,0	399	425	0	0	2
All	**422,8**	**422**	**12,4**	**2,9**	**1,1**	**388**	**460**	**3**	**24**	**135**
Cl, mmol/l										
ISE direct	133,0	133	1,9	1,4	0,8	131	136	0	0	5
ISE indirect	121,9	122	2,5	2,1	0,3	97	135	0	17	104
Vitros 250-950 & 5,1 & 4600 & 5600	126,2	126	-	-	-	-	-	0	0	1
Others	126,0	127	4,5	3,6	2,6	121	130	0	0	3
All	**122,3**	**122**	**3,0**	**2,4**	**0,3**	**97**	**136**	**0**	**19**	**113**
Cortisol, nmol/l										
Other methods	322,7	316	32,7	10,1	11,6	274	382	0	0	8
Roche systems	379,8	376	19,0	5,0	6,6	329	404	0	1	13
Siemens Advia Centaur & ACS	343,6	344	-	-	-	-	-	0	0	1
All	**357,5**	**372**	**38,6**	**10,8**	**8,2**	**274**	**404**	**0**	**1**	**22**
Crea, µmol/l										
Amperometry	382,8	383	2,7	0,7	1,5	380	385	0	0	3
Photometry, enzymatic	353,2	354	6,3	1,8	0,7	328	564	3	19	127
Photometry, Jaffe	343,9	341	13,6	4,0	3,5	310	385	0	5	24
Vitros 250-950 & 5,1 & 4600 & 5600	402,2	401	5,9	1,5	2,9	396	410	0	0	4

NUMERICAL SUMMARY **Serum B and C, general clinical chemistry 2023/01, Sample 002**

Analyte / Method group	x	med	s	CV%	u	Min	Max	Man.	Lob.	Excl.	Number
Crea, µmol/l											
Others	349,5	350	0,7	0,2	0,5	349	350	0		0	2
All	**352,6**	**353**	**8,6**	**2,4**	**0,7**	**310**	**564**	**3**		**29**	**160**
Cu, µmol/l											
Photometry	21,47	22,1	2,44	11,3	1,22	18,0	23,7	0		0	4
All	**21,47**	**22,1**	**2,76**	**12,9**	**1,38**	**18,0**	**23,7**	**0**		**0**	**4**
Fe, µmol/l											
Photometry	37,61	37,6	1,12	3,0	0,13	35,0	40,0	3		15	124
Vitros 250-950 & 5,1 & 4600 & 5600	43,14	42,4	1,37	3,2	0,79	42,3	44,7	0		0	3
Others	37,60	37,6	0,85	2,3	0,60	37,0	38,2	0		0	2
All	**37,66**	**37,7**	**1,15**	**3,1**	**0,10**	**35,0**	**44,7**	**3**		**16**	**129**
Ferritin, µg/l											
Abbott	342,5	339	14,7	4,3	4,8	325	393	0		2	15
Abbott Architect	327,5	322	18,1	5,5	7,4	311	360	2		0	6
Other methods	266,9	265	47,4	17,7	23,7	211	327	0		0	4
Roche systems	314,8	318	16,0	5,1	4,4	294	336	1		0	21
Siemens Advia Centaur & ACS	241,2	241	3,7	1,5	2,6	239	244	0		0	2
Siemens Advia Centaur & Atellica	207,0	207	-	-	-	-	-	0		0	1
Thermo Scientific Konelab	215,4	215	-	-	-	-	-	0		0	1
Turbidimetry	303,9	311	20,8	6,8	5,8	250	343	0		5	20
Vitros Systems	213,0	213	14,1	6,6	10,0	203	223	0		0	2
Others	329,0	329	-	-	-	-	-	0		0	1
All	**312,9**	**317**	**29,3**	**9,4**	**3,4**	**203**	**393**	**3**		**15**	**73**
Glucose, mmol/l											
Amperometry	13,97	14,1	0,23	1,7	0,13	13,7	14,1	0		0	3
Photometry	14,95	15,0	0,31	2,1	0,03	13,0	17,7	3		19	145
Vitros 250-950 & 5,1 & 4600 & 5600	15,07	15,0	0,20	1,3	0,10	14,9	15,3	0		0	4
Others	14,30	14,3	0,14	1,0	0,10	14,2	14,4	0		0	2
All	**14,94**	**15,0**	**0,33**	**2,2**	**0,03**	**13,0**	**17,7**	**3**		**21**	**154**
GT, U/l											
GLUCANA-Tris, original level	149,1	150	16,1	10,8	8,1	133	163	0		0	4
IFCC comparable methods	158,0	160	6,9	4,4	0,7	136	187	4		20	137
Vitros 250-950 & 5,1 & 4600 & 5600	171,5	172	4,4	2,6	2,2	166	176	0		0	4
Others	152,0	152	-	-	-	-	-	0		0	1
All	**158,1**	**160**	**7,3**	**4,6**	**0,6**	**133**	**187**	**4**		**23**	**146**
Haptog, g/l											
Siemens nephelometry	1,512	1,50	0,045	3,0	0,018	1,47	1,60	0		0	6
Turbidimetry	1,479	1,48	0,040	2,7	0,007	1,39	1,61	0		9	51
Others	1,520	1,52	-	-	-	-	-	0		0	1
All	**1,482**	**1,48**	**0,039**	**2,6**	**0,005**	**1,39**	**1,61**	**0**		**10**	**58**
IgA, g/l											
Siemens nephelometry	3,08	3,1	0,04	1,3	0,02	3,0	3,1	0		0	6
Turbidimetry	2,89	2,9	0,09	3,1	0,02	2,7	3,2	1		6	55
All	**2,91**	**2,9**	**0,11**	**3,7**	**0,01**	**2,7**	**3,2**	**1**		**10**	**61**
IgE, kU/l											
Abbott	76,6	70	14,6	19,1	8,5	67	93	0		0	3
Other methods	77,5	78	-	-	-	-	-	0		0	1
Roche systems	98,0	98	2,3	2,3	0,9	95	102	0		0	6
Siemens Advia Centaur & ACS	78,9	79	-	-	-	-	-	0		0	1
Siemens Immulite	88,5	86	8,0	9,0	4,6	82	97	0		0	3
Thermo Fisher Scientific Phadia	90,3	88	11,7	12,9	4,1	76	115	0		0	8

NUMERICAL SUMMARY **Serum B and C, general clinical chemistry 2023/01, Sample 002**

Analyte / Method group	x	med	s	CV%	u	Min	Max	Man.Exc.	Lob.Excl.	Number
IgE, kU/l										
All	**89,1**	**89**	**11,1**	**12,4**	**2,4**	**67**	**115**	**0**	**3**	**22**
IgG, g/l										
Siemens nephelometry	14,62	14,9	0,49	3,4	0,20	14,0	15,0	0	0	6
Turbidimetry	13,92	13,9	0,39	2,8	0,06	10,3	15,0	1	9	59
Others	12,59	12,6	-	-	-	-	-	0	0	1
All	**13,95**	**13,9**	**0,43**	**3,1**	**0,05**	**10,3**	**15,0**	**1**	**13**	**66**
IgM, g/l										
Siemens nephelometry	1,32	1,3	0,08	5,7	0,03	1,2	1,4	0	0	6
Turbidimetry	1,22	1,2	0,05	3,8	0,01	1,0	1,4	1	10	59
All	**1,23**	**1,2**	**0,05**	**4,2**	**0,01**	**1,0**	**1,4**	**1**	**8**	**65**
K, mmol/l										
ISE direct	5,93	5,9	0,14	2,4	0,04	5,7	6,2	0	2	18
ISE indirect	5,91	5,9	0,07	1,2	0,01	5,6	7,7	0	27	139
Vitros 250-950 & 5,1 & 4600 & 5600	6,08	6,1	0,07	1,1	0,03	6,0	6,2	0	0	4
Others	5,97	6,0	0,04	0,7	0,03	5,9	6,0	0	0	2
All	**5,92**	**5,9**	**0,08**	**1,4**	**0,01**	**5,6**	**7,7**	**0**	**18**	**163**
Lactate, mmol/l										
Amperometry, others	4,14	4,3	0,48	11,6	0,28	3,6	4,5	0	0	3
Amperometry, Radiometer	3,10	3,1	0,00	0,0	0,00	2,7	3,4	0	6	14
Photometry, enzymatic	3,08	3,1	0,08	2,6	0,02	2,9	3,3	2	4	23
Vitros 250-950 & 5,1 & 4600 & 5600	2,90	2,9	0,03	1,0	0,02	2,9	2,9	0	0	3
Others	3,20	3,2	-	-	-	-	-	0	0	1
All	**3,09**	**3,1**	**0,13**	**4,1**	**0,02**	**2,7**	**4,5**	**2**	**7**	**44**
LD, U/l										
IFCC comparable methods	482,7	484	13,2	2,7	1,5	389	560	3	17	127
SCE-, DGKC-, SFBC-recommendations	481,2	480	7,6	1,6	3,4	474	494	0	0	5
Vitros 250-950 and 5,1, calculated to IFCC level	598,0	603	11,4	1,9	6,6	585	606	0	0	3
Vitros 250-950 and 5,1, original level	550,0	550	-	-	-	-	-	0	0	1
Others	476,0	476	2,8	0,6	2,0	474	478	0	0	2
All	**483,3**	**484**	**13,6**	**2,8**	**1,2**	**389**	**606**	**3**	**21**	**138**
Li, mmol/l										
ISE direct	1,66	1,7	-	-	-	-	-	0	0	1
Photometry	1,45	1,5	0,05	3,4	0,01	1,4	1,6	0	5	27
Others	1,48	1,5	-	-	-	-	-	1	0	1
All	**1,45**	**1,5**	**0,05**	**3,6**	**0,01**	**1,4**	**1,7**	**1**	**6**	**29**
Lipase, U/l										
Photometry	153,39	150,6	12,11	7,9	4,04	141,6	178,0	0	0	9
Photometry, chemical	157,97	156,0	4,39	2,8	2,54	154,9	163,0	0	0	3
Photometry, enzymatic	164,81	162,8	13,20	8,0	2,71	118,6	231,0	0	4	37
Vitros 250-950 & 5,1 & 4600 & 5600	1 582,20	1 654,2	148,70	9,4	85,85	1 411,2	1 681,2	0	0	3
Others	165,75	162,2	12,86	7,8	7,43	155,0	180,0	0	0	3
All	**163,82**	**162,0**	**14,99**	**9,2**	**2,02**	**118,6**	**1 681,2**	**0**	**7**	**55**
Mg, mmol/l										
Photometry	1,529	1,53	0,033	2,2	0,004	1,40	1,61	3	20	126
Vitros 250-950 & 5,1 & 4600 & 5600	1,505	1,50	0,024	1,6	0,012	1,48	1,53	0	0	4
Others	1,480	1,48	0,028	1,9	0,020	1,46	1,50	0	0	2
All	**1,527**	**1,53**	**0,034**	**2,2**	**0,003**	**1,40**	**1,61**	**3**	**20**	**132**
Na, mmol/l										

NUMERICAL SUMMARY **Serum B and C, general clinical chemistry 2023/01, Sample 002**

Analyte / Method group	x	med	s	CV%	u	Min	Max	Man.Lob.	Excl.	Number
Na, mmol/l										
ISE direct	157,7	158	2,4	1,5	0,7	153	161	0	1	18
ISE indirect	153,1	153	1,3	0,8	0,1	136	166	0	19	139
Vitros 250-950 & 5,1 & 4600 & 5600	160,7	161	0,4	0,2	0,2	160	161	0	0	4
Others	153,9	154	1,6	1,0	1,1	153	155	0	0	2
All	**153,4**	**153**	**1,6**	**1,1**	**0,1**	**136**	**166**	**0**	**35**	**163**
Osmol, mosm/kg										
All	408,3	409	4,1	1,0	0,8	299	415	0	7	42
Others	398,5	399	3,5	0,9	2,5	396	401	0	0	2
All	**407,8**	**409**	**4,6**	**1,1**	**0,7**	**299**	**415**	**0**	**6**	**44**
Pi, mmol/l										
Photometry	2,710	2,71	0,077	2,8	0,008	2,51	2,95	3	17	133
Vitros 250-950 & 5,1 & 4600 & 5600	2,902	2,90	0,012	0,4	0,006	2,89	2,92	0	0	4
Others	2,725	2,73	0,078	2,9	0,055	2,67	2,78	0	0	2
All	**2,714**	**2,71**	**0,081**	**3,0**	**0,007**	**2,51**	**2,95**	**3**	**21**	**139**
Prot, g/l										
Photometry	88,8	89	2,2	2,5	0,3	70	93	0	8	120
Others	88,6	89	2,0	2,2	1,4	87	90	0	0	2
All	**88,8**	**89**	**2,2**	**2,5**	**0,2**	**70**	**93**	**0**	**9**	**122**
T3, nmol/l										
Abbott	0,91	0,9	0,15	16,4	0,11	0,8	1,0	0	0	2
Other methods	2,19	2,2	-	-	-	-	-	0	0	1
Roche systems	1,21	1,2	0,35	28,8	0,12	0,8	1,7	0	0	8
All	**1,22**	**1,1**	**0,44**	**36,1**	**0,13**	**0,8**	**2,2**	**0**	**1**	**11**
T4, nmol/l										
Abbott	117,4	117	10,5	8,9	7,4	110	125	0	0	2
Roche systems	118,8	123	7,2	6,1	2,4	104	125	0	0	9
All	**118,9**	**123**	**7,5**	**6,3**	**2,3**	**104**	**125**	**0**	**1**	**11**
T4 free, pmol/l										
Abbott Architect	19,02	18,8	1,58	8,3	0,43	12,4	22,2	0	3	21
Beckman Coulter Access	16,76	16,8	1,86	11,1	1,32	15,4	18,1	0	0	2
Other methods	19,70	19,7	-	-	-	-	-	0	0	1
Roche systems	23,07	22,6	1,32	5,7	0,28	15,3	26,1	0	4	35
Siemens Advia Centaur & ACS	16,57	16,4	0,51	3,1	0,30	16,2	17,2	0	0	3
Others	21,30	21,3	-	-	-	-	-	0	0	1
All	**21,12**	**21,9**	**2,99**	**14,1**	**0,38**	**12,4**	**26,1**	**0**	**8**	**63**
TfR, mg/l										
Roche systems	3,36	3,4	0,09	2,8	0,03	3,2	3,5	1	0	9
Siemens nephelometry	1,35	1,4	0,08	6,2	0,04	1,2	1,4	0	0	5
Others	1,30	1,3	-	-	-	-	-	0	0	1
All	**2,55**	**3,3**	**1,17**	**45,7**	**0,30**	**1,2**	**3,5**	**1**	**0**	**15**
TIBC, µmol/l										
Calculated from transferrin	87,7	88	2,6	3,0	0,6	71	95	0	4	27
Photometry	77,8	78	4,5	5,8	1,5	72	86	1	2	15
Others	86,5	87	-	-	-	-	-	0	0	1
All	**83,9**	**87**	**6,7**	**8,0**	**1,0**	**71**	**95**	**1**	**5**	**43**
Transf, g/l										
Siemens nephelometry	3,52	3,5	0,12	3,4	0,04	3,4	3,7	0	0	8
Turbidimetry	3,49	3,5	0,11	3,2	0,01	3,1	3,9	0	13	101
Others	3,57	3,6	-	-	-	-	-	0	0	1
All	**3,49**	**3,5**	**0,11**	**3,3**	**0,01**	**3,1**	**3,9**	**0**	**14**	**110**

NUMERICAL SUMMARY **Serum B and C, general clinical chemistry 2023/01, Sample 002**

Analyte / Method group	x	med	s	CV%	u	Min	Max	Man.	Rob.	Excl.	Number
Trigly, mmol/l											
Trigly, mmol/l											
Photometry, enzymatic	3,093	3,09	0,097	3,1	0,010	2,76	3,41	3	20		134
Vitros 250-950 & 5,1 & 4600 & 5600	3,590	3,59	0,023	0,6	0,012	3,57	3,61	0	0		4
Others	3,130	3,13	0,184	5,9	0,130	3,00	3,26	0	0		2
All	**3,099**	**3,09**	**0,104**	**3,4**	**0,009**	**2,76**	**3,61**	**3**	**22**		**140**
TSH, mU/l											
Abbott	1,68	1,7	0,09	5,1	0,02	1,5	1,8	0	3		21
Beckman Coulter Access	1,83	1,8	0,12	6,7	0,09	1,7	1,9	0	0		2
Others	1,80	1,8	-	-	-	-	-	0	0		1
Roche systems	2,03	2,0	0,09	4,7	0,02	1,6	2,2	1	4		35
Siemens Advia Centaur & ACS	1,96	2,0	0,04	1,9	0,02	1,9	2,0	0	0		3
Siemens Atellica	1,80	1,8	-	-	-	-	-	0	0		1
Others	2,08	2,1	-	-	-	-	-	0	0		1
All	**1,89**	**1,9**	**0,21**	**10,9**	**0,03**	**1,5**	**2,2**	**1**	**2**		**63**
Urea, mmol/l											
Photometry, enzymatic	20,79	20,8	0,61	2,9	0,07	19,1	22,1	3	20		137
Vitros 250-950 & 5,1 & 4600 & 5600	19,67	19,6	0,19	1,0	0,10	19,5	19,9	0	0		4
Others	21,10	21,1	0,00	0,0	0,00	21,1	21,1	0	0		2
All	**20,77**	**20,8**	**0,64**	**3,1**	**0,05**	**19,1**	**22,1**	**3**	**23**		**143**
Uric acid, µmol/l											
Photometry, enzymatic	551,2	551	16,1	2,9	1,7	322	584	0	19		148
Vitros 250-950 & 5,1 & 4600 & 5600	545,2	543	12,5	2,3	7,2	534	559	0	0		3
Others	559,5	560	9,2	1,6	6,5	553	566	0	0		2
All	**551,2**	**551**	**15,9**	**2,9**	**1,3**	**322**	**584**	**0**	**19**		**153**
Zn, µmol/l											
Photometry	37,7	38	3,5	9,2	0,9	30	43	0	1		21
All	**37,7**	**38**	**3,5**	**9,2**	**0,8**	**30**	**43**	**0**	**1**		**21**

Participants

176 participants from 14 countries.

Report info

Assigned value (target value) calculation and its uncertainty

Your own result should be compared to others using the same method.

The assigned values (Xrob) are calculated according to the robust procedure described in the standard ISO 13528 (Statistical methods for use in proficiency testing by interlaboratory comparisons, Annex C, Algorithm A).
The standard uncertainty of the assigned value is expressed as 1.25 x the standard error of mean (SEM) and marked as “u” in numerical summary. Due to its iterative mode algorithm A adds the uncertainty of the assigned value and with this factor we want to adjust uncertainty accordingly.

In case there are 2-12 results in a method group, the robust calculation is not used but assigned values (Xpt) are means of the results where results deviating more than +/- 3*standard deviation from the median are removed. The standard uncertainty (u) of the assigned value is reported as standard error of the mean (SEM). Additionally, if the measurement uncertainty of the target value is too large (u > 0.1 * maximum allowable error) an automatic text is printed on the report: “The uncertainty of the assigned value is not negligible, and evaluations could be affected.”

Please notice also that for groups that have only 1 result only the client’s own result is shown. No target value (except for reference method values) is calculated, no target areas are shown.

Z score
In case there are 2-5 results in a method group, no z-score is calculated, and a text is printed on the report: “Due to the small number of results, the z score is not calculated.” In case there are 6-12 results, the report has a text: “Z score is uncertain due to the small number of observations.”

Results reported with < tai > -signs cannot be included in the statistics.

For information on report interpretation and performance evaluation, please see the " EQAS Interpretation guidelines" in LabScala User instructions (top right corner ?Help link).

NUMERICAL SUMMARY BY METHODS Serum B and C, general clinical chemistry 2023/01

Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Sample 001					
A1Glypr, g/l					
Others					
Unknown	0	0,849	-	-	1
Siemens nephelometry					
BN instruments	191	0,760	-	-	1
Turbidimetry					
Roche cobas Tina-quant	190	0,753	0,011	1,4	5
Roche Tina-quant	190	0,795	-	-	1
Alb, g/l					
Bromcresol green					
Abbott Aeroset, Architect	24	44,7	0,3	0,7	3
ABX Pentra	24	44,2	1,1	2,4	4
Atellica	24	44,2	0,2	0,5	2
AU instruments	24	43,0	0,7	1,6	6
BioMaxima	24	42,4	-	-	1
BT Products	24	43,5	-	-	1
Roche	24	44,6	1,3	2,8	6
Roche cobas	24	45,1	2,0	4,4	50
Roche Cobas Integra	24	44,0	2,2	5,1	2
Siemens Advia	24	43,9	0,8	1,9	4
Bromcresol purple					
Abbott Aeroset, Architect	59	44,9	5,2	11,5	9
Atellica	59	41,8	0,5	1,3	12
Roche cobas	59	41,2	0,9	2,3	12
Siemens Advia	59	43,7	1,7	3,9	2
Siemens Dimension	59	41,4	1,1	2,6	10
Thermo Scientific	59	42,2	-	-	1
Others					
Unknown	0	44,5	0,7	1,6	2
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	68	45,1	0,9	1,9	4
ALP, U/l					
AMP methods, calculated to SCE					
Abbott Aeroset, Architect	25	78,8	0,4	0,4	2
AU instruments	25	74,7	6,7	8,9	3
IFCC (2011)					
Abbott	25	73,0	-	-	1
Abbott Aeroset, Architect	25	76,7	5,8	7,6	5
Atellica	25	76,3	1,3	1,6	14
Roche cobas	25	79,5	3,6	4,5	6
Siemens Advia	25	74,5	0,7	0,9	2
Siemens Dimension	25	74,5	2,1	2,8	2
Thermo Scientific	25	78,0	-	-	1
Thermo Scientific (IFCC) Plus	25	76,0	4,2	5,6	2
IFCC comparable methods (AMP)					

NUMERICAL SUMMARY BY METHODS Serum B and C, general clinical chemistry 2023/01

Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
ALP, U/l					
Abbott Aeroset, Architect	25	78,2	5,0	6,4	3
ABX Pentra	25	82,2	4,6	5,6	5
AU instruments	25	72,5	7,8	10,7	2
Roche cobas	25	78,5	2,0	2,5	58
Roche Cobas Integra	25	81,0	-	-	1
Roche IFCC	25	76,3	0,5	0,6	3
Siemens Advia	25	66,4	15,9	24,0	4
Siemens Dimension	25	76,3	2,3	3,0	7
Thermo Scientific (IFCC) Plus	25	79,5	4,9	6,2	2
Others					
Unknown	0	75,8	0,4	0,5	2
Vitros 250-950 and 5,1, calculated to IFCC					
Vitros 250-950 & 5,1	42	75,4	2,1	2,7	4
ALT, U/l					
IFCC comparable methods					
Abbott Aeroset, Architect	3	56,9	2,1	3,7	8
ABX Diagnostics	3	51,0	-	-	1
ABX Pentra	3	55,1	8,7	15,8	3
Atellica	3	56,7	2,1	3,7	14
AU instruments	3	48,4	2,3	4,7	3
Beckman Coulter	3	52,6	-	-	1
Roche	3	48,9	0,4	0,9	2
Roche cobas	3	50,8	2,3	4,5	54
Roche Cobas Integra	3	54,2	-	-	1
Siemens Advia	3	56,2	0,8	1,5	5
Siemens Dimension	3	57,0	1,9	3,3	9
Thermo Scientific	3	56,0	1,0	1,8	5
IFCC comparable methods without P-5-P					
ABX Pentra	9	54,9	-	-	1
Beckman Coulter	9	51,0	2,8	5,5	2
BioMaxima	9	47,4	-	-	1
Roche cobas	9	41,6	1,1	2,7	11
Roche Cobas Integra	9	44,0	-	-	1
Siemens Advia	9	50,0	-	-	1
Others					
Unknown	0	51,4	2,3	4,4	2
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	54	48,7	1,6	3,4	4
Amyl, U/l					
Different methods calculated to IFCC					
Abbott Aeroset, Architect	33	48,5	3,1	6,3	5
AU instruments	33	40,0	0,8	2,0	4
Siemens Dimension	115	49,3	1,0	1,9	4
Siemens Dimension	33	47,0	4,2	9,0	2
IFCC comparable methods					
ABX Pentra	20	51,8	-	-	1

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Amyl, U/l					
Atellica	20	52,8	0,6	1,1	8
AU instruments	20	45,9	2,0	4,3	3
Roche cobas	20	47,2	4,4	9,3	31
Roche Cobas Integra	20	49,0	-	-	1
Siemens Advia	20	47,8	1,5	3,1	6
Siemens Dimension Vista System	20	49,3	1,2	2,3	3
Thermo Scientific	20	50,5	2,1	4,2	2
Others					
Unknown	0	53,0	-	-	1
AmylP, U/l					
IFCC comparable methods					
Abbott Aeroset, Architect	76	22,0	0,2	0,7	4
Atellica	76	26,9	1,0	3,7	8
Roche cobas	76	23,9	0,5	2,3	39
Roche EPS	76	24,0	-	-	1
Siemens Advia	76	24,7	1,2	4,7	3
Others					
Unknown	0	33,8	13,9	41,3	2
Antitry, g/l					
Other nephelometry					
The Binding Site	191	1,40	-	-	1
Siemens nephelometry					
BN instruments	191	1,35	0,09	6,4	3
Turbidimetry					
Atellica	190	1,42	0,01	0,7	3
AU instruments	190	1,45	-	-	1
Quantia	190	1,47	0,01	0,5	2
Roche cobas Tina-quant	190	1,41	0,05	3,2	11
Siemens Advia	190	1,54	0,06	3,7	2
Vitros 5,1 FS	190	1,43	-	-	1
AST, U/l					
IFCC comparable methods					
Abbott Aeroset, Architect	197	44,4	1,5	3,5	7
ABX Pentra	197	45,3	-	-	1
Atellica	197	43,7	2,0	4,5	8
AU instruments	197	41,2	1,2	2,9	4
Roche	197	41,1	1,5	3,6	2
Roche	3	43,3	-	-	1
Roche cobas	197	42,1	1,9	4,4	45
Siemens Advia	197	42,3	1,5	3,6	4
Siemens Dimension	197	38,8	2,1	5,3	4
Thermo Scientific	197	44,3	0,6	1,3	3
IFCC comparable methods without P-5-P					
Beckman Coulter	199	38,5	0,7	1,8	2
Roche cobas	199	35,2	1,1	3,1	11
Roche Cobas Integra	199	36,0	-	-	1

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
AST, U/l					
Others					
Siemens Advia	199	40,5	0,7	1,7	2
Others					
Unknown	0	41,4	0,5	1,2	2
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	70	45,9	0,8	1,7	4
Bil, µmol/l					
Blood-gas instruments					
Blood-gas instruments	94	14,00	-	-	1
Others					
Unknown	0	11,29	2,43	21,5	2
Photometry					
Abbott Aeroset, Architect	8	11,96	0,97	8,1	6
ABX Pentra	8	12,00	-	-	1
Atellica	247	11,76	0,35	3,0	10
Atellica	8	10,88	1,64	15,0	3
AU instruments	8	13,17	0,45	3,4	3
Beckman Coulter	49	10,10	-	-	1
Roche	8	8,87	1,54	17,3	3
Roche cobas	8	8,80	1,33	15,2	63
Roche Cobas Integra	8	10,50	-	-	1
Siemens Advia	247	11,16	0,91	8,2	5
Siemens Advia TBIL_2	49	10,80	-	-	1
Siemens Dimension	49	9,85	1,62	16,4	9
Thermo Scientific NBD	8	11,85	0,49	4,2	2
Photometry (Beckman Coulter)					
AU instruments	8	12,83	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	47	11,00	-	-	1
Ca, mmol/l					
Others					
Unknown	0	2,420	0,057	2,3	2
Photometry					
Abbott Aeroset, Architect	36	2,493	0,263	10,6	13
ABX Pentra	36	2,441	0,071	2,9	3
Atellica	22	2,430	0,023	1,0	6
Atellica	36	2,400	0,051	2,1	7
AU instruments	22	2,450	-	-	1
AU instruments OSR6x117	36	2,422	0,020	0,8	3
Beckman Coulter	36	2,439	0,044	1,8	2
Roche	22	2,391	0,047	2,0	2
Roche Calcium NM-BAPTA	0	2,388	0,041	1,7	11
Roche cobas	22	2,389	0,091	3,8	57
Siemens Advia	22	2,370	0,042	1,8	2
Siemens Advia 02189915	36	2,390	0,020	0,8	4
Siemens Dimension	22	2,355	0,072	3,1	9

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Ca, mmol/l					
Vitros 250-950 & 5,1 & 4600 & 5600					
Thermo Scientific	36	2,590	-	-	1
Vitros 250-950 & 5,1	65	2,315	0,028	1,2	4
Ca-Ion, mmol/l					
Calculated					
Calculated	38	1,106	0,082	7,4	3
ISE direct					
IL blood gas and electrolyte analysers	187	1,130	-	-	1
Radiometer blood gas analyzer	187	1,130	0,060	5,3	14
Roche blood gas and electrolyte analysers	187	1,118	0,060	5,4	2
Siemens blood gas and electrolyte analysers	187	1,108	0,036	3,2	4
Others					
Unknown	0	1,110	0,042	3,8	2
Ca-ion,pH7.4, mmol/l					
ISE direct					
ISE direct, others	187	1,563	0,638	40,8	3
Radiometer blood gas analyzer	187	1,222	0,064	5,2	13
Roche blood gas and electrolyte analysers	187	0,940	-	-	1
Siemens blood gas and electrolyte analysers	187	1,158	0,024	2,0	4
Thermo Scientific	187	1,183	0,025	2,1	3
Others					
Unknown	0	1,171	0,044	3,8	3
Chol, mmol/l					
Others					
Unknown	0	4,55	0,07	1,6	2
Photometry, enzymatic					
Abbott Aeroset, Architect	4	4,85	0,49	10,1	12
ABX Pentra	4	4,59	0,02	0,5	2
Atellica	4	4,50	0,06	1,4	14
AU instruments	4	4,82	0,22	4,5	6
BioMaxima	4	4,50	-	-	1
BT Products	4	4,81	-	-	1
Roche	4	4,48	0,14	3,2	3
Roche cobas	4	4,57	0,18	3,9	64
Roche Cobas Integra	4	4,56	-	-	1
Siemens Advia	4	4,57	0,06	1,3	6
Siemens Dimension	4	4,56	0,07	1,5	9
Thermo Scientific	4	4,77	0,06	1,2	3
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	30	4,76	0,05	1,1	4
Chol-HDL, mmol/l					
Direct Chol-HDL, Abbott					
Abbott Aeroset, Architect	10	1,327	0,228	17,2	12
Direct Chol-HDL, Beckman Coulter					
AU instruments	10	1,151	0,104	9,0	5
Beckman Coulter	10	1,300	-	-	1
Direct Chol-HDL, other methods					

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Chol-HDL, mmol/l					
Direct Chol-HDL, Roche systems					
Roche	10	1,156	0,023	2,0	5
Roche cobas	10	1,156	0,063	5,5	59
Roche Cobas Integra	10	1,130	-	-	1
Direct Chol-HDL, Siemens					
Atellica	10	1,153	0,049	4,3	14
Siemens Advia	10	1,176	0,018	1,5	4
Siemens Dimension	10	1,190	0,044	3,7	9
Direct Chol-HDL, Thermo Scientific Konelab					
Thermo Scientific HDL Cholesterol Plus	10	1,150	0,010	0,9	3
Others					
Unknown	0	1,150	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	35	1,230	0,050	4,1	3
Chol-LDL, mmol/l					
Direct Chol-LDL , Beckman Coulter					
AU instruments	46	2,917	0,307	10,5	2
Direct Chol-LDL, Abbott					
Abbott	46	3,225	0,035	1,1	2
Abbott Aeroset, Architect	46	3,262	0,188	5,8	7
Direct Chol-LDL, other methods					
Unknown	46	3,100	-	-	1
Direct Chol-LDL, Roche-systems					
Roche	46	2,668	0,051	1,9	5
Roche cobas	46	2,677	0,171	6,4	46
Roche Cobas Integra	46	2,630	-	-	1
Direct Chol-LDL, Siemens					
Atellica	46	3,204	0,282	8,8	7
Siemens Advia	46	3,390	0,127	3,7	4
Direct Chol-LDL, Thermo Scientific Konelab					
Thermo Scientific	46	2,750	-	-	1
Friedewald's formula					
Abbott Aeroset, Architect	38	2,815	0,035	1,3	2
Atellica	38	2,683	0,057	2,1	4
Friedewald's formula, others	38	2,706	0,094	3,5	10
Roche cobas	38	2,760	0,085	3,1	2
Siemens Advia	38	2,640	-	-	1
Thermo Scientific	38	3,020	0,028	0,9	2
Others					
Unknown	0	2,730	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	46	2,983	0,051	1,7	3
CK, U/l					
IFCC comparable methods					
Abbott Aeroset, Architect	13	164,9	6,3	3,9	9

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
CK, U/l					
ABX Pentra	13	165,5	-	-	1
Atellica	13	162,3	5,4	3,3	12
AU instruments	13	175,1	3,4	1,9	5
Merck	13	165,4	-	-	1
Roche	13	165,0	-	-	1
Roche cobas	13	161,7	3,6	2,2	63
Roche Cobas Integra	13	163,1	1,6	1,0	2
Siemens Advia	13	162,0	5,8	3,6	6
Siemens Dimension	13	163,0	6,1	3,7	3
Siemens Dimension Vista System	13	163,7	3,1	1,9	6
Thermo Scientific	13	164,0	-	-	1
Thermo Scientific	261	168,0	1,4	0,8	2
Others					
Unknown	0	161,0	8,5	5,3	2
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	56	156,1	10,0	6,4	2
Cl, mmol/l					
ISE direct					
Radiometer blood gas analyzer	187	101,8	2,0	2,0	5
ISE indirect					
Abbott Architect	188	106,3	10,1	9,5	9
Atellica	188	102,9	1,3	1,3	7
AU instruments	188	100,9	1,5	1,5	3
Beckman Coulter Synchron	188	99,0	-	-	1
Roche	188	97,9	0,1	0,1	2
Roche cobas	188	99,2	3,5	3,6	55
Roche Cobas Integra	188	98,8	-	-	1
Siemens Advia	188	101,2	2,0	2,0	6
Siemens Dimension	188	101,0	4,2	4,2	2
Others					
Unknown	0	103,0	1,4	1,4	2
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	187	102,6	-	-	1
Cortisol, nmol/l					
Other methods					
Abbott Architect	18	301,2	9,6	3,2	2
Atellica	18	413,0	-	-	1
Roche systems					
Roche cobas	27	329,5	18,7	5,7	10
Roche Elecsys	27	331,4	6,3	1,9	2
Roche Modular E	27	334,0	-	-	1
Siemens Advia Centaur & ACS					
Siemens Advia Centaur	18	335,7	-	-	1
Crea, µmol/l					
Amperometry					
Radiometer blood gas analyzer	259	87,0	2,6	3,0	3
Others					

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Crea, µmol/l					
Photometry, enzymatic					
Unknown	0	81,0	2,9	3,6	2
Abbott Aeroset, Architect	999	78,0	1,9	2,4	10
ABX Pentra	130	80,4	3,1	3,9	5
Atellica	129	78,7	7,1	9,0	14
AU instruments	129	79,9	0,5	0,7	2
Roche	130	83,0	2,8	3,4	2
Roche cobas	130	81,5	2,5	3,1	58
Siemens Advia	130	77,0	1,4	1,8	2
Siemens Advia	241	79,6	2,1	2,6	2
Siemens Dimension Vista System	129	74,8	1,8	2,3	8
Thermo Scientific	130	80,8	2,6	3,2	5
Photometry, Jaffe					
ABX Pentra	200	88,4	-	-	1
AU instruments	200	77,1	1,9	2,4	4
BT Products	200	102,5	-	-	1
Roche cobas	200	81,6	4,4	5,4	12
Roche Cobas Integra	200	84,0	-	-	1
Siemens Advia	200	77,5	10,5	13,6	2
Siemens Dimension	200	79,6	0,0	0,0	2
Unknown	200	94,6	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	39	79,7	0,9	1,2	4
Cu, µmol/l					
Photometry					
Chema Diagnostica	159	12,28	-	-	1
Labor+Technik Eberhard Lehmann	159	16,10	-	-	1
Randox	159	15,70	-	-	1
Fe, µmol/l					
Others					
Unknown	0	18,85	0,21	1,1	2
Photometry					
Abbott Aeroset, Architect	55	19,36	0,70	3,6	7
ABX Pentra	55	18,97	-	-	1
Atellica	26	18,58	0,36	1,9	13
AU instruments	141	18,84	0,38	2,0	6
Beckman Coulter	26	18,08	-	-	1
BT Products	26	18,26	-	-	1
Roche	26	19,33	0,49	2,5	4
Roche cobas	26	19,04	0,49	2,5	53
Roche Cobas Integra	26	19,44	-	-	1
Siemens Advia	26	18,60	0,53	2,8	6
Siemens Dimension	55	18,20	0,40	2,2	9
Thermo Scientific	55	18,95	0,49	2,6	2
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	82	20,84	0,14	0,7	3

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Ferritin, µg/l					
Ferritin, µg/l					
Abbott Architect					
Abbott Architect	18	60,7	11,6	19,2	7
Other methods					
ABX Pentra	196	50,5	-	-	1
Beckman Coulter Access	18	60,6	-	-	1
Siemens Dimension Vista System	254	51,0	-	-	1
Others					
Unknown	0	74,3	-	-	1
Roche systems					
Roche cobas	27	71,8	2,7	3,8	16
Roche Elecsys	27	71,9	3,6	5,0	3
Roche Modular E	27	71,1	2,4	3,3	4
Siemens Advia Centaur & ACS					
Siemens Advia Centaur	0	47,9	-	-	1
Siemens Advia Centaur	18	46,2	-	-	1
Siemens Advia Centaur & Atellica					
Atellica	18	42,0	-	-	1
Thermo Scientific Konelab					
Thermo Scientific	21	41,1	-	-	1
Turbidimetry					
AU instruments	107	58,4	0,9	1,5	2
Beckman Coulter	196	64,0	-	-	1
Roche cobas	21	71,8	3,2	4,5	12
Roche Tina-quant	107	75,2	1,1	1,4	4
Vitros Systems					
Atellica	18	38,5	0,7	1,8	2
Glucose, mmol/l					
Amperometry					
Amperometric analyzer	80	6,80	-	-	1
Blood-gas instruments	80	6,80	0,14	2,1	2
Others					
Unknown	0	6,79	0,01	0,2	2
Photometry					
Abbott Aeroset, Architect	17	7,00	0,11	1,6	11
ABX Diagnostics	17	7,00	-	-	1
ABX Pentra	28	6,82	-	-	1
Atellica	17	6,92	0,21	3,1	14
AU instruments	17	6,98	0,15	2,1	5
Beckman Coulter	17	6,99	-	-	1
BioMaxima	28	6,38	-	-	1
BT Products	28	6,94	-	-	1
Roche	17	6,99	0,06	0,8	3
Roche cobas	17	6,98	0,13	1,8	67
Roche Cobas Integra	17	6,93	-	-	1
Siemens Advia	17	6,87	0,14	2,1	5
Siemens Advia	28	6,80	-	-	1

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Glucose, mmol/l					
Siemens Dimension	17	7,30	0,21	2,9	10
Thermo Scientific	17	6,92	0,08	1,2	5
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	37	7,17	0,10	1,3	4
GT, U/l					
GLUCANA-Tris, original level					
AU instruments	29	40,5	0,7	1,7	2
BioMaxima	29	32,1	-	-	1
Roche	29	32,0	-	-	1
IFCC comparable methods					
Abbott Aeroset, Architect	23	40,8	1,2	3,0	10
ABX Pentra	29	37,0	-	-	1
Atellica	149	39,1	1,4	3,5	13
AU instruments	23	40,9	0,8	2,0	4
BT Products	23	38,0	-	-	1
Roche	23	38,3	0,4	1,1	2
Roche	29	39,8	0,3	0,7	2
Roche cobas	29	38,6	1,5	4,0	62
Roche Cobas Integra	29	39,5	0,7	1,8	2
Siemens Advia	29	34,3	6,2	18,0	6
Siemens Dimension	23	42,0	2,2	5,2	9
Thermo Scientific	23	41,0	1,4	3,4	5
Others					
Unknown	0	43,0	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	45	38,3	0,9	2,3	4
Haptog, g/l					
Others					
Unknown	0	1,340	-	-	1
Siemens nephelometry					
Siemens Dimension Vista System	191	1,325	0,042	3,2	6
Turbidimetry					
Abbott Aeroset, Architect	190	1,302	0,026	2,0	5
Atellica	190	1,279	0,055	4,3	9
AU instruments	190	1,262	-	-	1
Roche Cobas Integra Tina-quant	190	1,320	-	-	1
Roche cobas Tina-quant	190	1,280	0,056	4,4	20
Roche Tina-quant	190	1,299	0,030	2,3	4
Siemens Advia	190	1,270	0,014	1,1	2
Vitros 5,1 FS	190	1,350	-	-	1
IgA, g/l					
Siemens nephelometry					
BN instruments	191	2,90	-	-	1
Siemens Dimension Vista System	191	2,86	0,05	1,9	5
Turbidimetry					
Abbott Aeroset, Architect	190	2,81	0,06	2,2	7
Atellica	190	2,91	0,09	3,0	5

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
IgA, g/l					
AU instruments	190	2,72	-	-	1
Beckman Coulter	190	2,94	0,09	3,1	2
Roche Cobas Integra	190	2,76	0,07	2,6	2
Roche cobas Tina-quant	190	2,86	0,05	1,7	21
Roche Tina-quant	190	2,87	0,14	4,9	2
Siemens Advia	190	2,91	0,01	0,4	3
Vitros 5,1 FS	190	3,11	-	-	1
IgE, kU/l					
Abbott					
Abbott Aeroset, Architect	179	91,8	24,5	26,7	3
Other methods					
BN instruments	139	103,0	-	-	1
Roche systems					
Roche cobas	27	127,8	2,6	2,0	3
Roche Elecsys	27	127,0	5,6	4,4	2
Roche Modular E	27	128,0	-	-	1
Siemens Advia Centaur & ACS					
Siemens ACS	18	106,0	-	-	1
Siemens Immulite					
Siemens Immulite	18	119,0	10,5	8,9	3
Thermo Fisher Scientific Phadia					
Phadia CAP IgE FEIA 10-9124-01, 10-9251-01, 10-9395-01	63	117,4	10,5	8,9	8
IgG, g/l					
Others					
Unknown	0	10,60	-	-	1
Siemens nephelometry					
BN instruments	191	10,30	-	-	1
Siemens Dimension Vista System	191	10,50	0,50	4,8	5
Turbidimetry					
Abbott Aeroset, Architect	190	10,71	1,52	14,1	7
Atellica	190	10,29	0,22	2,1	9
AU instruments	190	9,75	-	-	1
Beckman Coulter	190	9,95	0,50	5,0	2
Roche Cobas Integra	190	10,03	-	-	1
Roche cobas Tina-quant	190	10,31	0,17	1,7	22
Roche Tina-quant	190	10,17	0,18	1,7	2
Siemens Advia	190	10,34	0,32	3,1	3
Vitros 5,1 FS	190	9,89	-	-	1
IgM, g/l					
Siemens nephelometry					
BN instruments	191	1,00	-	-	1
Siemens Dimension Vista System	191	1,08	0,04	4,1	5
Turbidimetry					
Abbott Aeroset, Architect	190	1,02	0,10	10,2	7
Atellica	190	1,02	0,02	1,7	9
AU instruments	190	1,02	-	-	1

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
IgM, g/l					
Beckman Coulter	190	0,98	0,03	2,9	2
Roche Cobas Integra	190	1,00	0,01	0,7	2
Roche cobas Tina-quant	190	1,00	0,03	2,6	18
Roche Tina-quant	190	1,00	0,02	1,9	4
Siemens Advia	190	1,03	0,06	5,6	3
Vitros 5,1 FS	190	1,10	-	-	1
K, mmol/l					
ISE direct					
ABX Diagnostics	187	7,65	0,17	2,2	5
ISE direct, others	187	7,36	0,01	0,2	2
Radiometer blood gas analyzer	187	7,56	0,05	0,7	5
Roche blood gas and electrolyte analysers	187	7,70	-	-	1
Thermo Scientific	187	7,58	0,04	0,6	5
ISE indirect					
Abbott Aeroset	188	7,60	-	-	1
Abbott Architect	188	7,28	0,76	10,5	9
Atellica	188	7,71	0,08	1,0	14
AU instruments	188	7,61	0,13	1,7	6
Roche	188	7,76	0,05	0,6	3
Roche cobas	188	7,74	0,24	3,1	71
Roche Cobas Integra	188	7,79	-	-	1
Siemens Advia	188	7,88	0,22	2,8	6
Siemens Dimension	188	7,57	0,07	0,9	10
Others					
Unknown	0	7,70	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	187	7,74	0,07	0,9	4
Lactate, mmol/l					
Amperometry, others					
Blood-gas instruments	88	8,49	0,24	2,8	3
Amperometry, Radiometer					
Blood-gas instruments	88	8,31	0,58	6,9	14
Others					
Unknown	0	8,50	-	-	1
Photometry, enzymatic					
Abbott Aeroset, Architect	81	8,94	0,72	8,0	2
Atellica	81	8,70	-	-	1
AU instruments	81	8,79	-	-	1
Roche	81	8,64	0,20	2,3	2
Roche cobas	81	8,44	0,16	1,9	15
Siemens Advia	999	7,20	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	104	8,97	0,13	1,4	3
LD, U/l					
IFCC comparable methods					
Abbott Aeroset, Architect	67	176,4	12,4	7,1	10

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
LD, U/l					
ABX Pentra	67	183,8	8,4	4,6	3
Atellica	67	180,8	7,9	4,4	14
AU instruments	67	184,1	11,4	6,2	4
Roche	67	175,0	9,1	5,2	3
Roche cobas	67	174,9	8,9	5,1	59
Roche Cobas Integra	67	178,5	0,7	0,4	2
Siemens Advia	67	183,5	3,8	2,1	4
Siemens Dimension	67	171,1	12,4	7,2	9
Others					
Unknown	0	175,0	8,5	4,8	2
SCE-, DGKC-, SFBC-recommendations					
Roche cobas	61	173,0	2,2	1,2	4
Siemens Advia	61	174,0	-	-	1
Vitros 250-950 and 5,1, calculated to IFCC level					
Vitros 250-950 & 5,1	71	175,0	2,8	1,6	3
Vitros 250-950 and 5,1, original level					
Vitros 250-950 & 5,1	71	175,0	-	-	1
Li, mmol/l					
ISE direct					
IL blood gas and electrolyte analysers	187				0
Photometry					
Abbott Aeroset, Architect	171				0
Roche cobas	169				0
Thermo Electron Co	171				0
Lipase, U/l					
Others					
Unknown	0	41,41	1,50	3,6	3
Photometry					
Abbott Aeroset, Architect	6	41,68	2,29	5,5	6
Sentinel	264	31,16	1,64	5,3	2
Photometry, enzymatic					
Beckman Coulter	6	58,47	15,60	26,7	3
Roche cobas	262	41,84	1,73	4,1	26
Siemens Advia	112	45,68	1,89	4,1	8
Mg, mmol/l					
Others					
Unknown	0	0,855	0,021	2,5	2
Photometry					
Abbott Aeroset, Architect	169	0,850	0,028	3,3	2
Abbott Aeroset, Architect	36	0,850	0,010	1,2	3
ABX Pentra	44	0,810	-	-	1
Atellica	44	0,846	0,017	2,0	11
AU instruments	44	0,863	0,023	2,7	8
Roche	44	0,883	0,019	2,2	5
Roche cobas	44	0,875	0,016	1,8	27
Roche cobas	83	0,876	0,024	2,7	31
Roche Cobas Integra	83	0,860	-	-	1

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Mg, mmol/l					
Siemens Advia	44	0,853	0,027	3,1	6
Siemens Dimension	90	0,844	0,049	5,9	8
Unknown	44	0,818	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	79	0,847	0,018	2,2	4
Na, mmol/l					
ISE direct					
ABX Diagnostics	187	136,8	2,4	1,8	5
ISE direct, others	187	133,6	0,1	0,1	2
Radiometer blood gas analyzer	187	137,4	0,9	0,7	5
Roche blood gas and electrolyte analysers	187	138,0	-	-	1
Thermo Scientific	187	136,8	1,9	1,4	5
ISE indirect					
Abbott Aeroset	188	137,0	-	-	1
Abbott Architect	188	140,4	8,2	5,8	8
Atellica	188	137,6	1,0	0,7	14
AU instruments	188	136,6	1,0	0,7	6
ISE indirect, others	188	138,8	-	-	1
Roche	188	136,0	0,8	0,6	3
Roche cobas	188	137,2	2,6	1,9	71
Roche Cobas Integra	188	136,0	-	-	1
Siemens Advia	188	138,2	0,9	0,6	7
Siemens Dimension	188	136,3	0,9	0,7	10
Others					
Unknown	0	139,0	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	187	136,6	0,9	0,6	4
Osmol, mosm/kg					
All					
Freezing point method	53	301,2	17,7	5,9	40
Vapour pressure method	166	296,0	-	-	1
Others					
Unknown	0	295,0	11,3	3,8	2
Pi, mmol/l					
Others					
Unknown	0	1,095	0,064	5,8	2
Photometry					
Abbott Aeroset, Architect	14	1,085	0,043	4,0	9
ABX Pentra	14	1,118	0,039	3,5	4
Atellica	14	1,107	0,025	2,3	11
AU instruments	14	1,093	0,036	3,3	6
Roche	14	1,035	-	-	1
Roche cobas	14	1,072	0,029	2,7	67
Roche Cobas Integra	14	1,090	-	-	1
Siemens Advia	14	1,098	0,020	1,9	6
Siemens Dimension	14	1,046	0,060	5,7	8

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Pi, mmol/l					
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	73	1,155	0,037	3,2	4
Prot, g/l					
Others					
Unknown	0	69,0	1,5	2,2	2
Photometry					
Abbott Aeroset, Architect	16	73,6	9,4	12,7	10
Atellica	16	68,4	1,0	1,4	10
AU instruments	16	69,2	0,6	0,9	5
Beckman Coulter	16	68,7	-	-	1
BioMaxima	16	62,0	-	-	1
BT Products	16	67,6	-	-	1
Roche	16	67,9	0,3	0,4	2
Roche cobas	16	68,8	1,4	2,1	58
Roche Cobas Integra	16	66,8	-	-	1
Siemens Advia	16	68,3	1,7	2,5	6
Siemens Dimension	16	70,6	1,4	2,0	7
T3, nmol/l					
Abbott					
Abbott Architect	18	1,53	0,04	2,3	2
Other methods					
Beckman Coulter Access	18	1,99	-	-	1
Roche systems					
Roche cobas	27	1,57	0,35	22,1	8
T4, nmol/l					
Abbott					
Abbott Architect	18	89,1	3,0	3,3	2
Roche systems					
Roche cobas	27	96,9	4,4	4,6	8
Roche Elecsys	27	91,4	-	-	1
T4 free, pmol/l					
Abbott Architect					
Abbott Architect	18	14,83	3,60	24,3	7
Beckman Coulter Access					
Beckman Coulter Access	18	13,29	0,95	7,2	2
Other methods					
Atellica	18	16,60	-	-	1
Others					
Unknown	0	16,00	-	-	1
Roche systems					
Roche cobas	27	16,62	0,57	3,4	28
Roche Elecsys	27	16,77	0,68	4,0	6
Roche Modular E	27	16,42	-	-	1
Siemens Advia Centaur & ACS					
Siemens Advia Centaur	0	14,88	-	-	1
Siemens Advia Centaur	18	14,64	0,06	0,4	2
TfR, mg/l					

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
TfR, mg/l					
Others					
Atellica	190	1,60	-	-	1
Roche systems					
Roche cobas Tina-quant	196	4,02	0,11	2,7	9
Siemens nephelometry					
Siemens N Latex sTfR	191	1,63	0,16	10,1	5
TIBC, µmol/l					
Calculated from transferrin					
Calculated from transferrin	91	74,3	4,3	5,7	27
Others					
Unknown	0	74,0	-	-	1
Photometry					
Abbott Aeroset, Architect	113	66,6	8,0	12,0	4
AU instruments	102	64,0	2,6	4,1	3
Roche	102	64,0	-	-	1
Roche cobas	102	66,1	1,9	2,9	5
Siemens Advia	74	71,0	-	-	1
Transf, g/l					
Others					
Unknown	0	2,96	-	-	1
Siemens nephelometry					
Siemens Dimension Vista System	191	3,02	0,14	4,6	8
Turbidimetry					
Abbott Aeroset, Architect	190	3,11	0,31	9,8	8
Atellica	190	2,93	0,12	4,0	13
AU instruments	190	2,99	0,01	0,2	2
Roche Cobas Integra Tina-quant	190	2,99	0,07	2,4	5
Roche cobas Tina-quant	190	3,00	0,12	4,1	43
Roche Tina-quant	190	2,95	0,15	5,0	5
Siemens Advia	190	2,95	0,07	2,4	5
Vitros 5,1 FS	190	2,83	0,21	7,3	3
Trigly, mmol/l					
Others					
Unknown	0	1,420	0,057	4,0	2
Photometry, enzymatic					
Abbott Aeroset, Architect	6	1,358	0,032	2,4	10
ABX Pentra	6	1,395	0,033	2,4	2
Atellica	6	1,439	0,045	3,1	13
AU instruments	6	1,362	0,016	1,2	6
BioMaxima	6	1,277	-	-	1
BT Products	6	1,300	-	-	1
Roche	6	1,394	0,065	4,7	2
Roche cobas	6	1,409	0,038	2,7	64
Roche Cobas Integra	6	1,410	-	-	1
Siemens Advia	6	1,407	0,020	1,4	6
Siemens Dimension	120	1,434	0,064	4,5	9
Thermo Scientific	6	1,403	0,029	2,0	4

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Trigly, mmol/l					
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	43	1,480	0,034	2,3	4
TSH, mU/l					
Abbott					
Abbott Architect	18	1,62	0,08	5,0	7
Beckman Coulter Access					
Beckman Coulter Access	18	1,72	0,07	4,1	2
Others					
Atellica	18	1,90	-	-	1
Unknown	0	1,90	-	-	1
Roche systems					
Roche cobas	27	1,85	0,07	3,7	29
Roche Elecsys	27	1,79	0,19	10,4	4
Roche Modular E	27	1,84	0,16	8,5	2
Siemens Advia Centaur & ACS					
Siemens Advia Centaur	0	1,75	-	-	1
Siemens Advia Centaur	18	1,81	0,01	0,8	2
Siemens Atellica					
Atellica	18	1,90	-	-	1
Urea, mmol/l					
Others					
Unknown	0	6,05	0,08	1,3	2
Photometry, enzymatic					
Abbott Aeroset, Architect	12	6,04	0,30	4,9	9
ABX Pentra	12	5,65	0,22	4,0	4
Atellica	12	6,20	0,27	4,4	14
AU instruments	12	6,03	0,30	5,0	6
Roche	12	5,71	0,04	0,6	2
Roche cobas	12	5,79	0,16	2,8	67
Roche Cobas Integra	12	5,82	-	-	1
Siemens Advia	12	6,17	0,27	4,3	6
Siemens Dimension	12	6,02	0,14	2,3	10
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	64	6,07	0,10	1,7	4
Uric acid, µmol/l					
Others					
Unknown	0	346,5	7,8	2,2	2
Photometry, enzymatic					
Abbott Aeroset, Architect	7	390,5	87,3	22,4	11
ABX Diagnostics	7	350,0	-	-	1
ABX Pentra	116	347,4	2,5	0,7	3
ABX Pentra	7	344,8	-	-	1
Atellica	7	350,0	5,7	1,6	14
AU instruments	7	341,1	15,8	4,6	6
Beckman Coulter	7	355,5	2,1	0,6	2
BioMaxima	116	207,1	-	-	1
Roche	7	336,0	-	-	1

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Uric acid, µmol/l					
Roche cobas	7	338,4	24,4	7,2	67
Roche Cobas Integra	7	342,2	7,6	2,2	2
Siemens Advia	7	351,4	2,5	0,7	5
Siemens Dimension	116	325,0	9,8	3,0	10
Thermo Scientific	7	358,8	13,0	3,6	4
Unknown	7	346,3	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	40	345,0	7,7	2,2	3
Zn, µmol/l					
Photometry					
BEN Biochemical Enterprise	249	26,2	0,2	0,8	2
Labor+Technik Eberhard Lehmann	159	28,1	-	-	1
Randox	128	30,3	2,5	8,2	2
Sentinel	128	29,5	1,9	6,3	16

Sample 002

Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
A1Glypr, g/l					
Others					
Unknown	0	1,084	-	-	1
Siemens nephelometry					
BN instruments	191	1,090	-	-	1
Turbidimetry					
Roche cobas Tina-quant	190	0,987	0,022	2,2	5
Roche Tina-quant	190	0,996	-	-	1
Alb, g/l					
Bromcresol green					
Abbott Aeroset, Architect	24	56,8	1,3	2,3	3
ABX Pentra	24	56,0	0,9	1,6	4
Atellica	24	56,4	0,1	0,3	2
AU instruments	24	54,6	1,1	1,9	6
BioMaxima	24	51,4	-	-	1
BT Products	24	54,6	-	-	1
Roche	24	56,8	0,9	1,5	6
Roche cobas	24	56,7	2,2	3,9	50
Roche Cobas Integra	24	55,5	2,5	4,6	2
Siemens Advia	24	56,5	1,3	2,3	4
Bromcresol purple					
Abbott Aeroset, Architect	59	50,9	4,7	9,3	9
Atellica	59	54,2	1,5	2,8	12
Roche cobas	59	53,7	1,3	2,4	12
Siemens Advia	59	56,6	1,4	2,5	2
Siemens Dimension	59	54,0	1,3	2,5	10
Thermo Scientific	59	59,6	-	-	1
Others					
Unknown	0	56,4	0,8	1,5	2
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	68	53,6	1,3	2,4	4

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Alb, g/l					
ALP, U/l					
AMP methods, calculated to SCE					
Abbott Aeroset, Architect	25	410,7	11,7	2,9	2
AU instruments	25	450,3	8,5	1,9	3
IFCC (2011)					
Abbott	25	370,0	-	-	1
Abbott Aeroset, Architect	25	383,8	16,2	4,2	5
Atellica	25	352,0	6,6	1,9	14
Roche cobas	25	357,9	22,8	6,4	5
Siemens Advia	25	348,0	0,0	0,0	2
Siemens Dimension	25	351,5	0,7	0,2	2
Thermo Scientific	25	354,0	-	-	1
Thermo Scientific (IFCC) Plus	25	355,0	26,9	7,6	2
IFCC comparable methods (AMP)					
Abbott Aeroset, Architect	25	393,5	10,1	2,6	3
ABX Pentra	25	386,0	15,0	3,9	5
AU instruments	25	436,5	17,7	4,0	2
Roche cobas	25	351,5	15,0	4,3	58
Roche Cobas Integra	25	368,0	-	-	1
Roche IFCC	25	336,3	6,7	2,0	3
Siemens Advia	25	359,7	8,1	2,2	3
Siemens Dimension	25	357,3	9,3	2,6	7
Thermo Scientific (IFCC) Plus	25	342,0	9,9	2,9	2
Others					
Unknown	0	336,0	31,1	9,3	2
Vitros 250-950 and 5,1, calculated to IFCC					
Vitros 250-950 & 5,1	42	340,6	6,5	1,9	4
ALT, U/l					
IFCC comparable methods					
Abbott Aeroset, Architect	3	161,3	4,0	2,5	8
ABX Diagnostics	3	170,0	-	-	1
ABX Pentra	3	179,5	29,1	16,2	3
Atellica	3	161,0	6,1	3,8	14
AU instruments	3	159,7	3,8	2,4	4
Beckman Coulter	3	154,8	-	-	1
Roche	3	149,9	0,5	0,3	2
Roche cobas	3	159,1	34,4	21,6	54
Roche Cobas Integra	3	150,7	-	-	1
Siemens Advia	3	165,2	2,2	1,3	5
Siemens Dimension	3	161,0	2,9	1,8	9
Thermo Scientific	3	157,6	4,2	2,6	5
IFCC comparable methods without P-5-P					
ABX Pentra	9	178,0	-	-	1
Beckman Coulter	9	170,0	11,3	6,7	2
BioMaxima	9	152,3	-	-	1
Roche cobas	9	147,2	2,7	1,8	11

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
ALT, U/l					
Others					
Unknown	0	162,5	19,1	11,7	2
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	54	148,1	1,3	0,9	4
Amyl, U/l					
Different methods calculated to IFCC					
Abbott Aeroset, Architect	33	438,6	29,4	6,7	5
AU instruments	33	372,8	14,5	3,9	4
Siemens Dimension	115	473,3	15,6	3,3	4
Siemens Dimension	33	441,5	40,3	9,1	2
IFCC comparable methods					
ABX Pentra	20	474,4	-	-	1
Atellica	20	466,2	5,9	1,3	8
AU instruments	20	418,3	6,8	1,6	3
Roche cobas	20	410,8	38,6	9,4	31
Roche Cobas Integra	20	425,0	-	-	1
Siemens Advia	20	425,5	9,7	2,3	6
Siemens Dimension Vista System	20	468,7	7,6	1,6	3
Thermo Scientific	20	432,5	16,3	3,8	2
Others					
Unknown	0	469,0	-	-	1
AmylP, U/l					
IFCC comparable methods					
Abbott Aeroset, Architect	76	206,0	1,0	0,5	4
Atellica	76	235,0	7,3	3,1	8
Roche cobas	76	211,4	21,6	10,2	39
Roche EPS	76	210,3	-	-	1
Siemens Advia	76	219,0	6,0	2,7	3
Others					
Unknown	0	308,9	144,1	46,7	2
Antitry, g/l					
Other nephelometry					
The Binding Site	191	1,63	-	-	1
Siemens nephelometry					
BN instruments	191	1,81	0,12	6,6	3
Turbidimetry					
Atellica	190	1,68	0,01	0,6	3
AU instruments	190	1,77	-	-	1
Quantia	190	1,83	0,04	1,9	2
Roche cobas Tina-quant	190	1,68	0,05	2,8	11
Siemens Advia	190	1,86	0,06	3,4	2
Vitros 5,1 FS	190	1,73	-	-	1
AST, U/l					
IFCC comparable methods					
Abbott Aeroset, Architect	197	259,0	5,4	2,1	7

NUMERICAL SUMMARY BY METHODS Serum B and C, general clinical chemistry 2023/01

Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
AST, U/l					
ABX Pentra	197	294,4	-	-	1
Atellica	197	253,8	5,8	2,3	8
AU instruments	197	279,5	4,2	1,5	4
Roche	197	242,6	2,6	1,1	2
Roche	3	254,4	-	-	1
Roche cobas	197	249,7	5,0	2,0	46
Siemens Advia	197	259,3	2,1	0,8	4
Siemens Dimension	197	239,8	4,6	1,9	4
Thermo Scientific	197	255,0	7,9	3,1	3
IFCC comparable methods without P-5-P					
Beckman Coulter	199	271,0	9,9	3,7	2
Roche cobas	199	248,6	3,5	1,4	11
Roche Cobas Integra	199	265,0	-	-	1
Siemens Advia	199	264,5	3,5	1,3	2
Others					
Unknown	0	263,5	20,5	7,8	2
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	70	260,8	3,4	1,3	4
Bil, µmol/l					
Blood-gas instruments					
Blood-gas instruments	94	107,00	-	-	1
Others					
Unknown	0	108,60	21,78	20,1	2
Photometry					
Abbott Aeroset, Architect	8	109,07	4,82	4,4	6
ABX Pentra	8	114,20	-	-	1
Atellica	247	112,83	2,55	2,3	11
Atellica	8	111,97	3,88	3,5	3
AU instruments	8	108,76	2,48	2,3	3
Beckman Coulter	49	95,20	-	-	1
Roche	8	95,87	3,59	3,7	3
Roche cobas	8	94,67	3,78	4,0	63
Roche Cobas Integra	8	99,50	-	-	1
Siemens Advia	247	112,66	2,60	2,3	5
Siemens Advia TBIL_2	49	113,60	-	-	1
Siemens Dimension	49	104,22	5,12	4,9	9
Thermo Scientific NBD	8	104,60	0,14	0,1	2
Photometry (Beckman Coulter)					
AU instruments	8	107,05	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	47	104,00	-	-	1
Ca, mmol/l					
Others					
Unknown	0	3,060	0,057	1,8	2
Photometry					
Abbott Aeroset, Architect	36	2,954	0,251	8,5	13

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Ca, mmol/l					
ABX Pentra	36	3,166	0,046	1,4	3
Atellica	22	3,056	0,050	1,6	6
Atellica	36	3,034	0,070	2,3	7
AU instruments	22	3,120	-	-	1
AU instruments OSR6x117	36	3,153	0,050	1,6	3
Beckman Coulter	36	3,120	0,042	1,4	2
Roche	22	3,026	0,034	1,1	2
Roche Calcium NM-BAPTA	0	3,050	0,057	1,9	11
Roche cobas	22	3,026	0,101	3,3	57
Siemens Advia	22	3,030	0,071	2,3	2
Siemens Advia 02189915	36	3,008	0,029	1,0	4
Siemens Dimension	22	2,998	0,084	2,8	9
Thermo Scientific	36	3,360	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	65	3,075	0,012	0,4	4
Ca-Ion, mmol/l					
Calculated					
Calculated	38	1,202	0,059	4,9	3
ISE direct					
IL blood gas and electrolyte analysers	187	1,480	-	-	1
Radiometer blood gas analyzer	187	1,552	0,440	28,4	15
Roche blood gas and electrolyte analysers	187	1,560	0,042	2,7	2
Siemens blood gas and electrolyte analysers	187	1,415	0,037	2,6	4
Others					
Unknown	0	1,447	0,031	2,1	3
Ca-ion,pH7.4, mmol/l					
ISE direct					
ISE direct, others	187	1,693	0,659	38,9	4
Radiometer blood gas analyzer	187	1,359	0,051	3,8	14
Roche blood gas and electrolyte analysers	187	1,340	-	-	1
Siemens blood gas and electrolyte analysers	187	1,358	0,022	1,6	4
Thermo Scientific	187	1,423	0,029	2,0	3
Others					
Unknown	0	1,483	0,235	15,8	5
Chol, mmol/l					
Others					
Unknown	0	5,87	0,04	0,7	2
Photometry, enzymatic					
Abbott Aeroset, Architect	4	5,70	0,50	8,8	12
ABX Pentra	4	5,90	0,01	0,2	2
Atellica	4	5,92	0,08	1,4	14
AU instruments	4	6,09	0,25	4,2	6
BioMaxima	4	5,65	-	-	1
BT Products	4	5,82	-	-	1
Roche	4	5,62	0,20	3,6	3

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Chol, mmol/l					
Roche cobas	4	5,77	0,19	3,3	64
Roche Cobas Integra	4	5,75	-	-	1
Siemens Advia	4	6,00	0,12	1,9	6
Siemens Dimension	4	5,68	0,13	2,3	9
Thermo Scientific	4	5,93	0,12	1,9	3
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	30	6,46	0,09	1,3	4
Chol-HDL, mmol/l					
Direct Chol-HDL, Abbott					
Abbott Aeroset, Architect	10	1,842	0,348	18,9	12
Direct Chol-HDL, Beckman Coulter					
AU instruments	10	1,730	0,114	6,6	5
Beckman Coulter	10	1,900	-	-	1
Direct Chol-HDL, other methods					
ABX Pentra	10	2,070	-	-	1
BioMaxima	10	1,601	-	-	1
Direct Chol-HDL, Roche systems					
Roche	10	1,578	0,049	3,1	5
Roche cobas	10	1,570	0,071	4,6	60
Roche Cobas Integra	10	1,600	-	-	1
Direct Chol-HDL, Siemens					
Atellica	10	1,708	0,116	6,8	14
Siemens Advia	10	1,645	0,048	2,9	5
Siemens Dimension	10	1,694	0,073	4,3	9
Direct Chol-HDL, Thermo Scientific Konelab					
Thermo Scientific HDL Cholesterol Plus	10	1,577	0,021	1,3	3
Others					
Unknown	0	1,600	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	35	1,830	0,059	3,2	4
Chol-LDL, mmol/l					
Direct Chol-LDL , Beckman Coulter					
AU instruments	46	4,092	-	-	1
Direct Chol-LDL, Abbott					
Abbott	46	3,510	0,014	0,4	2
Abbott Aeroset, Architect	46	3,308	0,201	6,1	7
Direct Chol-LDL, other methods					
Unknown	46	3,952	-	-	1
Direct Chol-LDL, Roche-systems					
Roche	46	3,775	0,090	2,4	5
Roche cobas	46	3,737	0,229	6,1	46
Roche Cobas Integra	46	3,690	-	-	1
Direct Chol-LDL, Siemens					
Atellica	46	3,470	0,412	11,9	6
Siemens Advia	46	3,943	0,189	4,8	4
Direct Chol-LDL, Thermo Scientific Konelab					
Thermo Scientific	46	3,740	-	-	1
Friedewald's formula					

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Chol-LDL, mmol/l					
Others					
Abbott Aeroset, Architect	38	2,420	0,085	3,5	2
Atellica	38	2,540	0,085	3,3	2
Friedewald's formula, others	38	2,550	0,158	6,2	10
Roche cobas	38	2,085	0,870	41,7	2
Siemens Advia	38	2,700	-	-	1
Thermo Scientific	38	2,975	0,035	1,2	2
Others					
Unknown	0	3,850	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	46	3,350	0,123	3,7	3
CK, U/l					
IFCC comparable methods					
Abbott Aeroset, Architect	13	433,8	15,4	3,6	9
ABX Pentra	13	436,8	-	-	1
Atellica	13	411,3	14,6	3,5	12
AU instruments	13	440,7	8,5	1,9	5
Merck	13	415,8	-	-	1
Roche	13	429,0	-	-	1
Roche cobas	13	421,1	9,9	2,4	63
Roche Cobas Integra	13	420,4	3,4	0,8	2
Siemens Advia	13	425,3	17,7	4,2	6
Siemens Dimension	13	413,7	5,5	1,3	3
Siemens Dimension Vista System	13	413,7	8,4	2,0	6
Thermo Scientific	13	406,0	-	-	1
Thermo Scientific	261	424,5	2,1	0,5	2
Others					
Unknown	0	412,0	18,4	4,5	2
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	56	413,3	14,6	3,5	2
Cl, mmol/l					
ISE direct					
Radiometer blood gas analyzer	187	133,0	1,9	1,4	5
ISE indirect					
Abbott Architect	188	118,6	9,0	7,6	9
Atellica	188	126,0	1,3	1,1	8
AU instruments	188	122,8	1,3	1,1	3
Beckman Coulter Synchron	188	120,0	-	-	1
Roche	188	119,3	0,4	0,4	2
Roche cobas	188	120,4	4,0	3,3	54
Roche Cobas Integra	188	134,7	-	-	1
Siemens Advia	188	123,6	1,6	1,3	6
Siemens Dimension	188	128,0	5,7	4,4	2
Others					
Unknown	0	126,0	4,5	3,6	3
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	187	126,2	-	-	1

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Cortisol, nmol/l					
Cortisol, nmol/l					
Other methods					
Abbott Architect	18	313,7	6,2	2,0	2
Atellica	18	382,0	-	-	1
Roche systems					
Roche cobas	27	378,6	23,6	6,2	10
Roche Elecsys	27	376,8	7,9	2,1	2
Roche Modular E	27	376,0	-	-	1
Siemens Advia Centaur & ACS					
Siemens Advia Centaur	18	343,6	-	-	1
Crea, µmol/l					
Amperometry					
Radiometer blood gas analyzer	259	382,8	2,7	0,7	3
Others					
Unknown	0	349,5	0,7	0,2	2
Photometry, enzymatic					
Abbott Aeroset, Architect	999	355,1	8,6	2,4	10
ABX Pentra	130	350,8	14,9	4,2	5
Atellica	129	352,4	4,2	1,2	14
AU instruments	129	351,6	4,0	1,1	2
Roche	130	356,2	8,8	2,5	2
Roche cobas	130	356,6	28,8	8,1	58
Siemens Advia	130	356,0	0,0	0,0	2
Siemens Advia	241	354,0	7,4	2,1	2
Siemens Dimension Vista System	129	350,4	5,7	1,6	8
Thermo Scientific	130	350,4	11,0	3,1	5
Photometry, Jaffe					
ABX Pentra	200	327,1	-	-	1
AU instruments	200	341,2	0,7	0,2	4
BT Products	200	340,3	-	-	1
Roche cobas	200	345,6	15,4	4,5	11
Roche Cobas Integra	200	342,5	-	-	1
Siemens Advia	200	337,7	5,2	1,5	2
Siemens Dimension	200	362,4	3,8	1,0	2
Unknown	200	310,3	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	39	402,2	5,9	1,5	4
Cu, µmol/l					
Photometry					
Chema Diagnostica	159	18,00	-	-	1
Labor+Technik Eberhard Lehmann	159	23,70	-	-	1
Randox	159	22,20	-	-	1
Fe, µmol/l					
Others					
Unknown	0	37,60	0,85	2,3	2
Photometry					
Abbott Aeroset, Architect	55	38,47	1,31	3,4	7

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Fe, µmol/l					
ABX Pentra	55	37,86	-	-	1
Atellica	26	36,87	0,57	1,5	14
AU instruments	141	37,73	1,20	3,2	6
Beckman Coulter	26	36,87	-	-	1
BT Products	26	37,77	-	-	1
Roche	26	38,34	0,67	1,8	5
Roche cobas	26	37,83	0,76	2,0	52
Roche Cobas Integra	26	39,69	-	-	1
Siemens Advia	26	36,63	0,58	1,6	6
Siemens Dimension	55	35,60	0,70	2,0	9
Thermo Scientific	55	37,25	1,48	4,0	2
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	82	43,14	1,37	3,2	3
Ferritin, µg/l					
Abbott Architect					
Abbott Architect	18	327,5	18,1	5,5	6
Other methods					
ABX Pentra	196	211,2	-	-	1
Beckman Coulter Access	18	259,6	-	-	1
Siemens Dimension Vista System	254	270,0	-	-	1
Others					
Unknown	0	329,0	-	-	1
Roche systems					
Roche cobas	27	315,5	13,6	4,3	14
Roche Elecsys	27	310,2	22,6	7,3	3
Roche Modular E	27	315,6	12,3	3,9	4
Siemens Advia Centaur & ACS					
Siemens Advia Centaur	0	243,8	-	-	1
Siemens Advia Centaur	18	238,6	-	-	1
Siemens Advia Centaur & Atellica					
Atellica	18	207,0	-	-	1
Thermo Scientific Konelab					
Thermo Scientific	21	215,4	-	-	1
Turbidimetry					
AU instruments	107	261,7	4,6	1,8	2
Beckman Coulter	196	250,0	-	-	1
Roche cobas	21	311,6	12,8	4,1	12
Roche Tina-quant	107	314,0	6,4	2,0	4
Vitros Systems					
Atellica	18	213,0	14,1	6,6	2
Glucose, mmol/l					
Amperometry					
Amperometric analyzer	80	14,10	-	-	1
Blood-gas instruments	80	13,90	0,28	2,0	2
Others					
Unknown	0	14,30	0,14	1,0	2
Photometry					

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Glucose, mmol/l					
Abbott Aeroset, Architect	17	15,24	0,18	1,2	11
ABX Diagnostics	17	14,90	-	-	1
ABX Pentra	28	14,75	-	-	1
Atellica	17	14,62	0,18	1,2	14
AU instruments	17	14,97	0,34	2,2	5
Beckman Coulter	17	14,91	-	-	1
BioMaxima	28	13,01	-	-	1
Roche	17	14,96	0,06	0,4	3
Roche cobas	17	14,94	0,27	1,8	67
Roche Cobas Integra	17	14,88	-	-	1
Siemens Advia	17	15,30	1,39	9,1	5
Siemens Advia	28	14,60	-	-	1
Siemens Dimension	17	15,42	0,43	2,8	10
Thermo Scientific	17	14,80	0,33	2,2	5
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	37	15,07	0,20	1,3	4
GT, U/l					
GLUCANA-Tris, original level					
AU instruments	29	163,0	0,0	0,0	2
BioMaxima	29	137,5	-	-	1
Roche	29	133,0	-	-	1
IFCC comparable methods					
Abbott Aeroset, Architect	23	160,5	3,3	2,1	10
ABX Pentra	29	152,0	-	-	1
Atellica	149	148,4	3,1	2,1	13
AU instruments	23	159,6	4,0	2,5	4
BT Products	23	154,0	-	-	1
Roche	23	158,4	2,3	1,5	2
Roche	29	162,0	1,4	0,9	2
Roche cobas	29	160,1	5,9	3,7	63
Roche Cobas Integra	29	161,0	0,0	0,0	2
Siemens Advia	29	145,8	3,9	2,7	6
Siemens Dimension	23	151,4	14,9	9,9	9
Thermo Scientific	23	158,8	3,1	2,0	5
Others					
Unknown	0	152,0	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	45	171,5	4,4	2,6	4
Haptog, g/l					
Others					
Unknown	0	1,520	-	-	1
Siemens nephelometry					
Siemens Dimension Vista System	191	1,512	0,045	3,0	6
Turbidimetry					
Abbott Aeroset, Architect	190	1,500	0,051	3,4	5
Atellica	190	1,449	0,031	2,2	9

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Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Haptog, g/l					
AU instruments	190	1,467	-	-	1
Roche Cobas Integra Tina-quant	190	1,510	-	-	1
Roche cobas Tina-quant	190	1,482	0,036	2,4	20
Roche Tina-quant	190	1,459	0,052	3,6	4
Siemens Advia	190	1,470	0,014	1,0	2
Vitros 5,1 FS	190	1,610	-	-	1
IgA, g/l					
Siemens nephelometry					
BN instruments	191	3,10	-	-	1
Siemens Dimension Vista System	191	3,08	0,04	1,5	5
Turbidimetry					
Abbott Aeroset, Architect	190	2,81	0,06	2,2	7
Atellica	190	2,98	0,03	1,0	5
AU instruments	190	2,75	-	-	1
Beckman Coulter	190	2,98	0,18	5,9	2
Roche Cobas Integra	190	2,82	0,03	1,0	2
Roche cobas Tina-quant	190	2,89	0,07	2,3	21
Roche Tina-quant	190	2,87	0,05	1,8	2
Siemens Advia	190	3,03	0,05	1,7	3
Vitros 5,1 FS	190	3,16	-	-	1
IgE, kU/l					
Abbott					
Abbott Aeroset, Architect	179	76,6	14,6	19,1	3
Other methods					
BN instruments	139	77,5	-	-	1
Roche systems					
Roche cobas	27	96,5	1,4	1,5	3
Roche Elecsys	27	99,6	3,0	3,0	2
Roche Modular E	27	99,0	-	-	1
Siemens Advia Centaur & ACS					
Siemens ACS	18	78,9	-	-	1
Siemens Immulite					
Siemens Immulite	18	88,5	8,0	9,0	3
Thermo Fisher Scientific Phadia					
Phadia CAP IgE FEIA 10-9124-01, 10-9251-01, 10-9395-01	63	90,3	11,7	12,9	8
IgG, g/l					
Others					
Unknown	0	12,59	-	-	1
Siemens nephelometry					
BN instruments	191	14,70	-	-	1
Siemens Dimension Vista System	191	14,60	0,55	3,8	5
Turbidimetry					
Abbott Aeroset, Architect	190	13,13	1,38	10,5	7
Atellica	190	14,21	0,35	2,4	9
AU instruments	190	12,83	-	-	1
Beckman Coulter	190	12,58	0,46	3,7	2

NUMERICAL SUMMARY BY METHODS Serum B and C, general clinical chemistry 2023/01

Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
IgG, g/l					
Roche Cobas Integra	190	14,40	-	-	1
Roche cobas Tina-quant	190	13,94	0,31	2,2	22
Roche Tina-quant	190	13,93	0,14	1,0	2
Siemens Advia	190	14,38	0,34	2,3	3
Vitros 5,1 FS	190	13,68	-	-	1
IgM, g/l					
Siemens nephelometry					
BN instruments	191	1,20	-	-	1
Siemens Dimension Vista System	191	1,34	0,05	4,1	5
Turbidimetry					
Abbott Aeroset, Architect	190	1,17	0,08	6,5	7
Atellica	190	1,24	0,03	2,6	9
AU instruments	190	1,24	-	-	1
Beckman Coulter	190	1,17	0,05	4,2	2
Roche Cobas Integra	190	1,20	0,01	1,2	2
Roche cobas Tina-quant	190	1,21	0,06	4,8	19
Roche Tina-quant	190	1,21	0,03	2,1	4
Siemens Advia	190	1,28	0,03	2,7	3
Vitros 5,1 FS	190	1,36	-	-	1
K, mmol/l					
ISE direct					
ABX Diagnostics	187	5,99	0,10	1,7	5
ISE direct, others	187	5,85	0,13	2,3	2
Radiometer blood gas analyzer	187	5,78	0,04	0,8	5
Roche blood gas and electrolyte analysers	187	6,20	-	-	1
Thermo Scientific	187	6,00	0,00	0,0	5
ISE indirect					
Abbott Aeroset	188	5,80	-	-	1
Abbott Architect	188	6,28	0,82	13,0	9
Atellica	188	5,93	0,05	0,9	14
AU instruments	188	5,82	0,06	1,1	6
Roche	188	5,95	0,06	0,9	3
Roche cobas	188	5,97	0,22	3,8	69
Roche Cobas Integra	188	5,89	-	-	1
Siemens Advia	188	6,00	0,15	2,5	6
Siemens Dimension	188	5,80	0,05	0,8	10
Others					
Unknown	0	5,97	0,04	0,7	2
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	187	6,08	0,07	1,1	4
Lactate, mmol/l					
Amperometry, others					
Blood-gas instruments	88	4,14	0,48	11,6	3
Amperometry, Radiometer					
Blood-gas instruments	88	3,09	0,16	5,1	14
Others					

NUMERICAL SUMMARY BY METHODS Serum B and C, general clinical chemistry 2023/01

Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Lactate, mmol/l					
Unknown	0	3,20	-	-	1
Photometry, enzymatic					
Abbott Aeroset, Architect	81	3,14	0,02	0,7	2
Atellica	81	2,90	-	-	1
AU instruments	81	3,01	-	-	1
Roche	81	3,18	0,12	3,7	2
Roche cobas	81	3,10	0,07	2,1	15
Siemens Advia	999	3,00	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	104	2,90	0,03	1,0	3
LD, U/l					
IFCC comparable methods					
Abbott Aeroset, Architect	67	490,1	30,8	6,3	10
ABX Pentra	67	489,8	14,3	2,9	3
Atellica	67	479,5	10,0	2,1	14
AU instruments	67	501,8	28,1	5,6	4
Roche	67	482,0	5,3	1,1	3
Roche cobas	67	482,4	16,4	3,4	59
Roche Cobas Integra	67	479,0	2,8	0,6	2
Siemens Advia	67	498,8	6,7	1,3	4
Siemens Dimension	67	464,2	11,3	2,4	9
Others					
Unknown	0	476,0	2,8	0,6	2
SCE-, DGKC-, SFBC-recommendations					
Roche cobas	61	481,5	8,7	1,8	4
Siemens Advia	61	480,0	-	-	1
Vitros 250-950 and 5,1, calculated to IFCC level					
Vitros 250-950 & 5,1	71	598,0	11,4	1,9	3
Vitros 250-950 and 5,1, original level					
Vitros 250-950 & 5,1	71	550,0	-	-	1
Li, mmol/l					
ISE direct					
IL blood gas and electrolyte analysers	187	1,66	-	-	1
Others					
Unknown	0	1,48	-	-	1
Photometry					
Abbott Aeroset, Architect	171	1,43	0,04	3,0	2
Atellica	171	1,50	-	-	1
Roche cobas	169	1,45	0,05	3,4	16
Siemens Advia	171	1,44	-	-	1
Thermo Electron Co	171	1,43	0,04	3,0	2
Lipase, U/l					
Others					
Unknown	0	165,75	12,86	7,8	3
Photometry					
Abbott Aeroset, Architect	6	147,88	7,54	5,1	6
Sentinel	264	157,65	7,98	5,1	2

NUMERICAL SUMMARY BY METHODS Serum B and C, general clinical chemistry 2023/01

Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Lipase, U/l					
Photometry, enzymatic					
Beckman Coulter	6	155,33	6,11	3,9	3
Roche cobas	262	161,39	17,37	10,8	26
Siemens Advia	112	183,18	4,49	2,4	8
Mg, mmol/l					
Others					
Unknown	0	1,480	0,028	1,9	2
Photometry					
Abbott Aeroset, Architect	169	1,550	0,028	1,8	2
Abbott Aeroset, Architect	36	1,517	0,015	1,0	3
ABX Pentra	44	1,470	-	-	1
Atellica	44	1,497	0,040	2,7	12
AU instruments	44	1,537	0,032	2,1	8
Roche	44	1,546	0,022	1,4	5
Roche cobas	44	1,538	0,025	1,6	27
Roche cobas	83	1,528	0,038	2,5	31
Roche Cobas Integra	83	1,500	-	-	1
Siemens Advia	44	1,505	0,045	3,0	6
Siemens Dimension	90	1,486	0,050	3,3	8
Unknown	44	1,471	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	79	1,505	0,024	1,6	4
Na, mmol/l					
ISE direct					
ABX Diagnostics	187	156,8	2,4	1,5	5
ISE direct, others	187	154,1	1,3	0,9	2
Radiometer blood gas analyzer	187	159,6	1,1	0,7	5
Roche blood gas and electrolyte analysers	187	157,0	-	-	1
Thermo Scientific	187	158,0	1,0	0,6	5
ISE indirect					
Abbott Aeroset	188	153,0	-	-	1
Abbott Architect	188	148,4	7,0	4,7	8
Atellica	188	153,8	1,0	0,7	14
AU instruments	188	153,2	1,1	0,7	6
ISE indirect, others	188	154,3	-	-	1
Roche	188	152,4	0,4	0,3	3
Roche cobas	188	153,1	2,8	1,8	69
Roche Cobas Integra	188	151,6	-	-	1
Siemens Advia	188	153,8	0,7	0,4	7
Siemens Dimension	188	151,4	1,1	0,7	10
Others					
Unknown	0	153,9	1,6	1,0	2
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	187	160,7	0,4	0,2	4
Osmol, mosm/kg					
All					
Freezing point method	53	405,6	17,5	4,3	41

NUMERICAL SUMMARY BY METHODS Serum B and C, general clinical chemistry 2023/01

Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Osmol, mosm/kg					
Others					
Vapour pressure method	166	406,0	-	-	1
Others					
Unknown	0	398,5	3,5	0,9	2
Pi, mmol/l					
Others					
Unknown	0	2,725	0,078	2,9	2
Photometry					
Abbott Aeroset, Architect	14	2,711	0,067	2,5	9
ABX Pentra	14	2,806	0,114	4,1	4
Atellica	14	2,788	0,057	2,0	12
AU instruments	14	2,757	0,105	3,8	6
BT Products	14	2,778	-	-	1
Roche	14	2,589	-	-	1
Roche cobas	14	2,708	0,059	2,2	67
Roche Cobas Integra	14	2,760	-	-	1
Siemens Advia	14	2,790	0,045	1,6	6
Siemens Dimension	14	2,655	0,109	4,1	8
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	73	2,902	0,012	0,4	4
Prot, g/l					
Others					
Unknown	0	88,6	2,0	2,2	2
Photometry					
Abbott Aeroset, Architect	16	86,3	8,8	10,1	10
Atellica	16	89,0	1,1	1,3	10
AU instruments	16	88,8	1,4	1,6	5
Beckman Coulter	16	88,2	-	-	1
BioMaxima	16	79,1	-	-	1
BT Products	16	87,6	-	-	1
Roche	16	88,7	0,2	0,2	2
Roche cobas	16	87,8	1,7	1,9	57
Roche Cobas Integra	16	85,8	-	-	1
Siemens Advia	16	88,9	2,3	2,6	6
Siemens Dimension	16	91,4	1,3	1,4	7
T3, nmol/l					
Abbott					
Abbott Architect	18	0,91	0,15	16,4	2
Other methods					
Beckman Coulter Access	18	2,19	-	-	1
Roche systems					
Roche cobas	27	1,21	0,35	28,8	8
T4, nmol/l					
Abbott					
Abbott Architect	18	117,4	10,5	8,9	2
Roche systems					
Roche cobas	27	119,6	7,2	6,0	8

NUMERICAL SUMMARY BY METHODS Serum B and C, general clinical chemistry 2023/01

Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
T4, nmol/l					
Roche Elecsys	27	112,0	-	-	1
T4 free, pmol/l					
Abbott Architect					
Abbott Architect	18	17,31	3,35	19,4	7
Beckman Coulter Access					
Beckman Coulter Access	18	16,76	1,86	11,1	2
Other methods					
Atellica	18	19,70	-	-	1
Others					
Unknown	0	21,30	-	-	1
Roche systems					
Roche cobas	27	22,96	1,87	8,1	28
Roche Elecsys	27	23,06	1,75	7,6	6
Roche Modular E	27	22,15	-	-	1
Siemens Advia Centaur & ACS					
Siemens Advia Centaur	0	16,18	-	-	1
Siemens Advia Centaur	18	16,76	0,55	3,3	2
TfR, mg/l					
Others					
Atellica	190	1,30	-	-	1
Roche systems					
Roche cobas Tina-quant	196	3,36	0,09	2,8	9
Siemens nephelometry					
Siemens N Latex sTfR	191	1,35	0,08	6,2	5
TIBC, µmol/l					
Calculated from transferrin					
Calculated from transferrin	91	87,0	4,7	5,4	27
Others					
Unknown	0	86,5	-	-	1
Photometry					
Abbott Aeroset, Architect	113	79,6	7,4	9,4	4
AU instruments	102	76,5	3,6	4,7	3
Roche	102	75,0	-	-	1
Roche cobas	102	76,9	1,1	1,4	5
Siemens Advia	74	84,0	-	-	1
Transf, g/l					
Others					
Unknown	0	3,57	-	-	1
Siemens nephelometry					
Siemens Dimension Vista System	191	3,52	0,12	3,4	8
Turbidimetry					
Abbott Aeroset, Architect	190	3,33	0,18	5,3	8
Atellica	190	3,44	0,15	4,4	12
AU instruments	190	3,43	0,02	0,6	2
Roche Cobas Integra Tina-quant	190	3,53	0,11	3,0	5
Roche cobas Tina-quant	190	3,52	0,13	3,6	43
Roche Tina-quant	190	3,45	0,11	3,1	5

NUMERICAL SUMMARY BY METHODS Serum B and C, general clinical chemistry 2023/01

Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Transf, g/l					
Siemens Advia	190	3,48	0,09	2,6	5
Vitros 5,1 FS	190	3,53	0,18	5,1	3
Trigly, mmol/l					
Others					
Unknown	0	3,130	0,184	5,9	2
Photometry, enzymatic					
Abbott Aeroset, Architect	6	3,060	0,075	2,5	10
ABX Pentra	6	3,171	0,000	0,0	2
Atellica	6	3,254	0,087	2,7	9
AU instruments	6	3,124	0,049	1,6	6
BioMaxima	6	2,760	-	-	1
BT Products	6	2,998	-	-	1
Roche	6	3,049	0,073	2,4	2
Roche cobas	6	3,065	0,072	2,4	64
Roche Cobas Integra	6	3,150	-	-	1
Siemens Advia	6	3,178	0,034	1,1	6
Siemens Dimension	120	3,252	0,111	3,4	9
Thermo Scientific	6	3,223	0,058	1,8	4
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	43	3,590	0,023	0,6	4
TSH, mU/l					
Abbott					
Abbott Architect	18	1,71	0,09	5,6	7
Beckman Coulter Access					
Beckman Coulter Access	18	1,83	0,12	6,7	2
Others					
Atellica	18	1,80	-	-	1
Unknown	0	2,08	-	-	1
Roche systems					
Roche cobas	27	2,03	0,10	4,9	29
Roche Elecsys	27	1,92	0,20	10,3	4
Roche Modular E	27	2,04	0,13	6,6	2
Siemens Advia Centaur & ACS					
Siemens Advia Centaur	0	1,99	-	-	1
Siemens Advia Centaur	18	1,94	0,03	1,6	2
Siemens Atellica					
Atellica	18	1,80	-	-	1
Urea, mmol/l					
Others					
Unknown	0	21,10	0,00	0,0	2
Photometry, enzymatic					
Abbott Aeroset, Architect	12	21,18	0,45	2,1	9
ABX Pentra	12	20,16	0,84	4,2	4
Atellica	12	20,93	0,53	2,5	14
AU instruments	12	21,09	0,70	3,3	6
Roche	12	20,55	0,93	4,5	2
Roche cobas	12	20,60	0,57	2,8	66

NUMERICAL SUMMARY BY METHODS Serum B and C, general clinical chemistry 2023/01

Analyte / Method group / Method	Chemical principle	Mean	s	CV%	No. of res.
Urea, mmol/l					
Vitros 250-950 & 5,1 & 4600 & 5600					
Roche Cobas Integra	12	20,96	-	-	1
Siemens Advia	12	21,05	0,67	3,2	6
Siemens Dimension	12	21,48	0,47	2,2	10
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	64	19,67	0,19	1,0	4
Uric acid, µmol/l					
Others					
Unknown	0	559,5	9,2	1,6	2
Photometry, enzymatic					
Abbott Aeroset, Architect	7	524,6	86,4	16,5	11
ABX Pentra	116	562,3	8,0	1,4	3
ABX Pentra	7	557,8	-	-	1
Atellica	7	563,2	9,3	1,7	14
AU instruments	7	555,4	22,5	4,0	6
Beckman Coulter	7	570,9	0,4	0,1	2
BioMaxima	116	439,7	-	-	1
Roche	7	550,9	-	-	1
Roche cobas	7	539,9	28,9	5,4	67
Roche Cobas Integra	7	550,9	13,0	2,4	2
Siemens Advia	7	567,8	3,0	0,5	5
Siemens Dimension	116	536,1	22,9	4,3	10
Thermo Scientific	7	563,5	7,9	1,4	4
Unknown	7	532,5	-	-	1
Vitros 250-950 & 5,1 & 4600 & 5600					
Vitros 250-950 & 5,1	40	545,2	12,5	2,3	3
Zn, µmol/l					
Photometry					
BEN Biochemical Enterprise	249	31,8	2,5	8,0	2
Labor+Technik Eberhard Lehmann	159	33,2	-	-	1
Randox	128	39,3	4,6	11,6	2
Sentinel	128	38,3	2,4	6,4	16

LABQUALITY

External Quality Assessment Scheme

General Clinical Chemistry Serum B and C
Round 1, 2023

Specimens
Sample S001 was human liquid, serum unprocessed. The code is DDB and this material has not been used before.

Sample S002 was a human liquid serum, processed. The code is SeL and this material has been used before on rounds 4-2022, 1-2022 and 2-2021. Please note that there might be larger differences in the method groups for this sample due to it being processed and might be less commutable.

Based on the previous tests and the results of this round, the samples are homogeneous, stable, and suitable for the external quality assessment scheme.

The materials were sent without temperature control packaging.

Report info
Please see the description of the data analysis on the last page of the laboratory-specific histograms and Numerical Summary reports.

Comments
It is important to read the Final report first, because it contains important information of the samples and results in each round. The numerical reports are usually available in a few days after the round has closed.

2022-03-16

FINAL REPORT

Product no. 2050

LQ-sample codes
LQ723523011/DK, LQ723523012/NO

Samples sent	2023-02-06
Round closed	2023-02-27
Report released	2023-03-16

Request for correction
Typing errors in laboratory's result forms are on laboratory's responsibility. Labquality accepts responsibility only for result processing. Requests must be notified by writing within three weeks from the date of this letter.

Authorized by
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FINAS
Finnish Accreditation Service
PT02 (EN ISO/IEC 17043)

Only the analysis phase is accredited.

Quality Management ISO 9001

Expert comments

Components with transferred value X_T as assigned value (Albumin, Calcium, Cholesterol, Creatinine, Glucose, GT, Iron, Magnesium, Phosphate, Potassium, Protein, Sodium, Triglycerides, Transferrin, Uric acid, Urea)

Acceptable agreement with Transferred values for most analytes for both samples has been received this time again. Only certain analytes which robust means deviate from Transferred values constantly, biased this time as well and are commented below. For Vitros group results from only 4 laboratories have been received and are omitted from the comments by analytes this time. Laboratories using Vitros instruments should evaluate their results by themselves.
It looks like few laboratories might have mixed up samples, therefore some deviating results are found in histograms.

Albumin
Bimodal distribution (partly overlapping) of Albumin results has been received again, but both BCP and BCG method bias for both samples fell within acceptable performance specification limits (APS).

Creatinine
There is an acceptable agreement with Transferred values of both Enzymatic and Jaffe (for Sample S002 due to high bilirubin concentration) method groups robust means. Transferred value for Sample S002 remains higher (341 µmol/L) and is close to values from the round 6/2020 (343 µmol/L), round 4/2022 (347 µmol/L), and round 1/2022 (350 µmol/L), while on rounds 1/2021 and 2/2021 Transferred values where lower: 324 µmol/L and 326 µmol/L respectively. For new Sample S001 Jaffe method robust mean (n=25) is 5.4 % higher than the Transferred value, what is, of course, expected. Jaffe method CV% is also higher.

GT
Robust means of both samples are lower (-6.4 and -5.5 %) than Transferred values using predefined APS of 5 %. It would have no impact on clinical interpretation of the results.

Iron
As usual, robust mean of the photometry group has got lower values than Transferred values for both samples (-6.4 and -5.8 %).

Triglycerides
As always enzymatic method group robust means for both samples are higher (7.6 and 6.3 %) than the Transferred values.

Calcium, Magnesium, Potassium, Protein, Sodium, Transferrin, and Urate robust means for both samples are in acceptable agreement with Transferred values for all major method groups.

Albumin, Cholesterol, Glucose, Phosphate, and Urea results are in good/acceptable agreement with the Transferred values except Vitros results (at least one Sample).

Components with consensus value (Xrob) as assigned value

ALP
The method group “IFCC (2011)” has got 42/41 results, 95/94 participants reported their results in IFCC comparable methods group. Robust means for both samples are at the same level with no significant difference. 5 laboratories reported their results as calculated to SCE – robust mean for Sample S002 is significantly higher.

Chloride
For Sample S001 ISE indirect Roche Cobas robust mean is lower again than Abbott (especially Architect, n=9) and Siemens method means. This time only 5 laboratories reported their results to the ISE Direct method group therefore robust mean has limited value, but still it is worth to mention, that for Sample S002 all 5 ISE Direct results, together with a few ISE Indirect results, formed a small separate distribution with the highest values.

Chol-HDL
Bimodal like distribution for sample S001 has been received. Roche and Thermo Scientific results are distributed in the lower end peak only, while results received by measurement procedures from other producers might be found both in the lower peak and higher end tail. Similar trends noticed in the sample S002. Basic trends of the result distribution remain the same in all rounds. Stabile difference between methods might be explained by heterogeneity of HDL as a measurand, and consequently different behavior of widely used measurement

procedures. Each laboratory should evaluate its own results according to individually set performance specifications.

Chol-LDL
Wide discrepancy between the results of different reagent producers remains unchanged with trimodal distribution in both samples. Each laboratory should evaluate own results according to individually set performance specifications.

Lithium
Lithium has been present in Sample 2. Photometry group (n=27) has got CV=3.4 %, what is acceptable.

Zinc
Some very discrepant results have been received again for both samples. Those laboratories should check their performance carefully.

Specific proteins
Siemens nephelometry method in general is calibrated to report slightly higher concentrations of many components than turbidimetry methods.

Statistical annex

Transferred values
5 Nordic laboratories using Roche Cobas, Advia Chemistry XPT, Thermo Fisher Scientific Konelab and Abbott Alinity methods (below referred to as “transferring laboratories”) have transferred values from RSX by measuring each of sample 1, sample 2 and RSX in triplicates. Further calculations are made on these values after testing for outliers with a Q-test (one high outlier for albumin and one for protein in serum B). The mean of the transferred values from the 5 transferring laboratories is used as the “Transferred value” (T in Table 2). The standard uncertainty (u) is calculated as SEM (standard error of mean) of the values (i.e. the uncertainty of the certified value for RSX is ignored). The relative value is shown in Table 2 as u/T.

Table 1. Transferred values and deviations for the large method groups. T is the transferred value, u is the standard uncertainty, M is the robust method group mean and Dev is the relative deviation from the transferred value (M/T – 1). T is not used as assigned value for the Vitros method even if it is mentioned in the table. |Deviations| >5 % are marked with red background.

		Sample 1 (DDB)				Sample 2 (SeL)			
		Transferred value		Method group		Transferred value		Method group	
Component	Main method group	T	u/T	M	Dev	T	u/T	M	Dev
Albumin	BCG	42.7	0.4 %	44.5	4.2 %	55.8	2.1 %	56.5	1.2 %
	BCP			42.0	-1.7 %			53.8	-3.6 %
	Vitros 250-950, 5.1			45.1	5.6 %			53.6	-4.0 %
Calcium	Photometry	2.39	0.3 %	2.39	-0.1 %	3.05	0.7 %	3.04	-0.5 %
	Vitros 250-950, 5.1			2.32	-3.0 %			3.08	0.7 %
Cholesterol	Photometry, enzymatic	4.54	0.5 %	4.58	0.8 %	5.79	1.2 %	5.82	0.5 %
	Vitros 250-950, 5.1			4.76	4.7 %			6.46	11.5 %
Creatinine	Photometry, enzymatic	77	0.6 %	80	2.8 %	341	1.9 %	353	3.7 %
	Photometry, Jaffe			82	5.4 %			344	0.9 %
	Vitros 250-950, 5.1			80	2.9 %			402	18.0 %
Glucose	Photometry	6.78	0.5 %	6.97	2.9 %	14.58	0.5 %	14.95	2.5 %
	Vitros 250-950, 5.1			7.17	5.8 %			15.07	3.3 %
GT	IFCC comparable methods	42	1.4 %	39	-6.4 %	167	0.8 %	158	-5.5 %
	Vitros 250-950, 5.1			38	-9.0 %			172	2.6 %
Iron	Photometry	20.2	0.2 %	18.9	-6.4 %	39.9	0.6 %	37.6	-5.8 %
	Vitros 250-950, 5.1			20.8	3.1 %			43.1	8.0 %
Magnesium	Photometry	0.86	1.0 %	0.86	0.8 %	1.53	1.1 %	1.53	-0.1 %
	Vitros 250-950, 5.1			0.85	-1.2 %			1.51	-1.7 %
Phosphate	Photometry	1.09	0.5 %	1.08	-1.6 %	2.75	0.6 %	2.71	-1.3 %
	Vitros 250-950, 5.1			1.16	5.7 %			2.90	5.7 %
Potassium	ISE direct	7.65	0.5 %	7.57	-1.1 %	5.93	0.5 %	5.93	-0.1 %
	ISE indirect			7.72	0.9 %			5.91	-0.4 %
	Vitros 250-950, 5.1			7.74	1.1 %			6.08	2.5 %
Protein	Photometry	69.8	0.1 %	69.0	-1.2 %	89.8	0.9 %	88.8	-1.1 %
Sodium	ISE direct	137.6	0.6 %	136.6	-0.7 %	155.0	0.3 %	157.7	1.7 %
	ISE indirect			137.0	-0.4 %			153.1	-1.2 %
	Vitros 250-950, 5.1			136.6	-0.7 %			160.7	3.7 %
Triglycerides	Photometry, enzymatic	1.30	0.7 %	1.40	7.6 %	2.91	1.0 %	3.09	6.3 %
	Vitros 250-950, 5.1			1.48	14.0 %			3.59	23.4 %
Transferrin*	Turbidimetry	3.06	1.8 %	2.98	-2.6 %	3.62	1.5 %	3.49	-3.7 %
Urate	Photometry, enzymatic	354	0.4 %	342	-3.4 %	569	0.4 %	551	-3.2 %
	Vitros 250-950, 5.1			345	-2.4 %			545	-4.2 %
Urea	Photometry, enzymatic	5.9	0.6 %	5.9	-0.9 %	21.2	1.2 %	20.8	-1.8 %
	Vitros 250-950, 5.1			6.1	2.5 %			19.7	-7.1 %

*The certified value for X is traceable to the NORIP consensus value for transferrin methods with IFCC calibration

References

1. NORIP home site (http://nyenga.net/norip/index.htm) – Traceability

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End of report