

CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Acid-base status and electrolytes

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INDIVIDUAL RESULTS

Laboratory's individual results are presented in histograms and in numerical summaries.

Histogram

The green shaded area shows the results for the method group. The blue columns relate to all results.

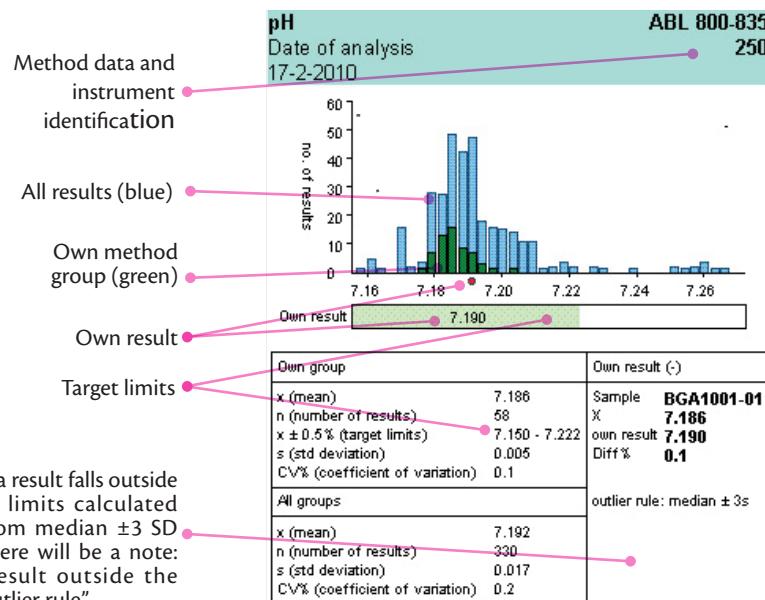
The target limits of the laboratory's method (output) group are shown in green in the box below the histogram. Laboratory's result is shown by a red dot and numerically. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a dot.

The statistical parameters for the laboratory's own group and all method groups (output groups) are printed below the histogram. The values are calculated from the results that fall within the calculated limits for the method group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the method group includes at least 7 results.

Numerical summary

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.



LABQUALITY Numerical summary		Acid-base status and electrolytes (2610)					
sample:	BGA1001-01	Results are out of the median $\pm 3 \times$ uncorrected SD or excluded manually in small method groups.					
sample comment:							
report release date:	9-3-2010						
analyte:	all						
your instrument:	ABL 800-835						
outlier rules:	Median $\pm 3s$						
analyte	method	mean	s	CV%	n	excluded results	
pH	ABL 500-655, Radiometer	7.187	-	-	1	0	
	ABL 610-625, Radiometer	7.191	-	-	1	0	
	ABL 5, Radiometer	7.183	0.0	0.1	6	0	
	ABL 70 and 77, Radiometer	7.210	0.0	-	2	0	
	ABL 700-735, Radiometer	7.187	0.0	0.1	88	1	
	ABL 80 FLEX, Radiometer	7.202	0.0	0.5	5	0	
	ABL 800 FLEX, Radiometer	7.185	0.0	0.1	17	1	
	ABL 800-835, Radiometer	7.186	0.0	0.1	58	2	
	Gem Premier 3000-3500, IL	7.172	0.0	0.1	22	0	
	Gem Premier 4000, IL	7.185	0.0	0.3	4	0	
	i-STAT, Abbott	7.259	0.0	0.1	6	0	
	OMNI C / Cobas b 121, Roche	7.220	0.0	0.2	5	1	
	OMNI 1-9, Roche	7.198	0.0	0.1	9	0	
	OMNI S / Cobas b 221, Roche	7.196	0.0	0.1	43	0	
	OPTI, Roche	7.244	0.0	0.3	5	0	
	Other, Other	7.182	0.0	0.2	6	0	
	Phox, Nova	7.252	-	-	1	0	
	Rapid Point 400-405, Siemens Diagnostics	7.174	0.0	0.3	6	0	
	RapidLab 1260-1265, Siemens Diagnostics	7.200	0.0	0.1	15	1	
	RapidLab 248, Siemens Diagnostics	7.207	0.0	0.1	7	0	
	RapidLab 348, Siemens Diagnostics	7.193	0.0	0.1	5	0	

CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Albumin and creatinine in urine

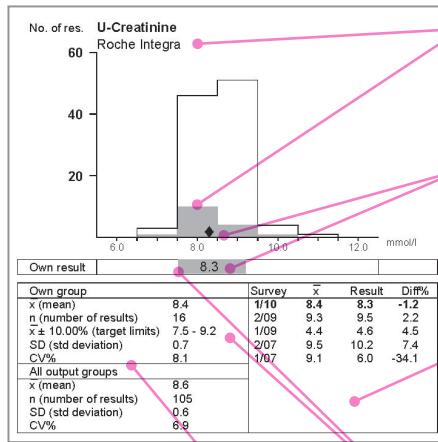
INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

Laboratory's result is presented by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.



Own group and All output groups

SD and CV are calculated if there are at least two results in a group. If there is only one, a dash (—) appears. Own result should always be compared with results in own method group.

Results for the laboratory's own method group (output group)

Shaded area on the histogram presents the method group in question. The outer edges relate to all results.

Laboratory's own result

Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)

Survey: Number of the survey and year

\bar{x} : Mean

Result: Laboratory's result

Diff%: Difference between laboratory's result and its method group mean (%)

The target area and limits

The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

LABQUALITY NUMERICAL SUMMARY Albumin and creatinine in urine 1/2010					
Assay	Output group	\bar{x}	SD	CV%	Results
U-Albumin mg/l	Abbott Aeroset and Architect	26.7	2.0	7.5	10
	Siemens Advia 1200/1650/1800 and 2400	23.8	2.6	10.9	7
	Siemens DCA 2000+	23.4	2.6	10.9	3
	Beckman Coulter Immage	17.0	-	-	1
	Beckman Coulter Synchron	22.0	-	-	1
	Siemens BN II	25.7	2.1	8.0	3
	Siemens BN ProSpec	27.7	0.6	2.1	4
	Siemens Immulite 2000	32.8	-	-	1
	HemoCue Urine Albumin	23.3	4.0	17.3	4
	Konelab	31.1	4.3	13.8	9
	NycoCard Reader	35.8	-	-	1
	Orius Diagnostics QuikRead	33.3	0.6	1.7	3
	Beckman Coulter AU instruments	26.4	3.2	12.2	4
	Roche Hitachi and Modular	24.5	2.7	11.0	13
	Roche Hitachi/Dako	29.5	-	-	1
	Roche Integra	23.2	2.7	11.8	17
	Roche cobas c 501	24.3	1.5	6.1	23
	Vitros	25.1	3.3	13.2	7
	Other method	32.0	-	-	1
	No method information	21.8	2.5	11.7	2
All output groups		25.5	3.8	15.1	115
U-Creatinine mmol/l	Abbott Aeroset and Architect	8.6	0.2	2.7	13
	Siemens Advia 1200/1650/1800 and 2400	8.7	0.9	10.9	8
	Siemens DCA 2000+	8.5	0.2	1.9	3
	Beckman Coulter Immage	8.4	-	-	1
	Beckman Coulter Synchron	8.7	-	-	1
	Siemens, other	7.7	-	-	1
	Konelab	8.7	0.7	7.9	9
	Beckman Coulter AU instruments	9.6	1.0	10.8	5
	Roche Hitachi and Modular	8.5	0.5	5.8	17
	Roche Integra	8.4	0.7	8.1	16
	Roche cobas c 501	8.7	0.3	3.6	21
	Vitros	8.3	0.3	3.6	9
	Other method	8.8	-	-	1
All output groups		8.6	0.6	6.9	105
Alb/Crea mg/mmol	All	2.88	0.46	16.1	99
	All output groups	2.88	0.46	16.1	99

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NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.

CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Alcohol in blood or serum

INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

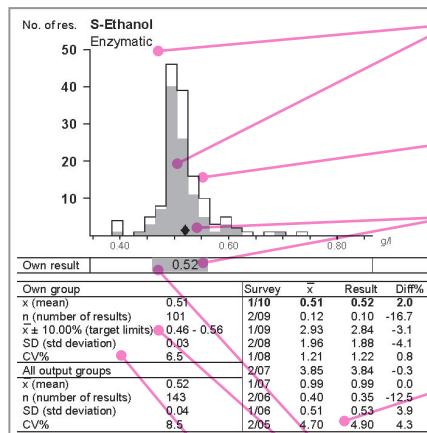
Laboratory's result is presented by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.

NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.



Results for the laboratory's own method group (output group)

Shaded area on the histogram shows the method group in question.

All results

The outer edges relate to all results.

Laboratory's own result

Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)

Survey: Number of the survey and year

X: Mean

Result: Laboratory's result

Diff%: Difference between laboratory's result and its method group mean (%)

The target area and limits

The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

Numerical summary, an example

Sample	002	Assay	Output group	\bar{x}	SD	CV%	Results
B-Ethanol		Gas chromatography		0.49	0.03	7.0	90
g/l		Enzymatic		0.55	0.26	48.1	2
		All output groups	0.49	0.05	9.2	92	
S-Ethanol		Gas chromatography		0.50	0.04	8.2	9
g/l		Enzymatic		0.51	0.03	6.5	101
		Abbott		0.55	0.12	21.3	7
		Dade Behring		0.52	0.06	11.9	9
		Vitros		0.54	0.04	7.0	15
		No method information		0.48	0.04	8.8	2
		All output groups	0.52	0.04	8.5	143	
B-Methanol		Gas chromatography		0.49	0.05	10.9	68
g/l		No method information		0.56	-	-	1
		All output groups	0.49	0.05	10.8	69	
S-Methanol		Gas chromatography		0.49	0.03	5.5	14
g/l		No method information		0.47	0.08	17.3	4
		All output groups	0.49	0.04	8.8	18	
B-Isopropanol		Gas chromatography		0.50	0.04	7.2	67
g/l		All output groups	0.50	0.04	7.2	67	
S-Isopropanol		Gas chromatography		0.50	0.04	7.2	14
g/l		All output groups	0.50	0.04	7.2	14	

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Allergy in vitro diagnostics: ECP and Total IgE

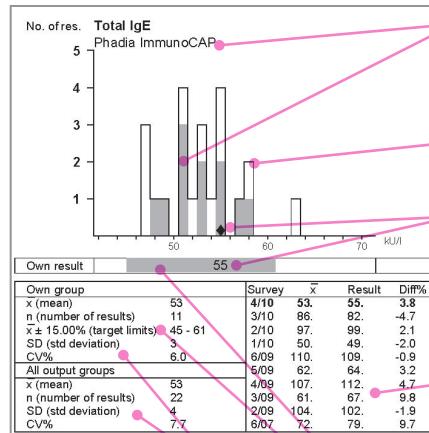
INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

Laboratory's result is presented by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.



Results for the laboratory's own method group (output group)

Shaded area on the histogram shows the method group in question.

All results

The outer edges relate to all results.

Laboratory's own result

Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)

Survey: Number of the survey and year

X: Mean

Result: Laboratory's result

Diff%: Difference between laboratory's result and its method group mean (%)

The target area and limits

The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

Own group and All output groups

SD and CV are calculated if there are at least two results in a group. If there is only one, a dash (—) appears. Own result should always be compared with results in own method group.

Please note. The Allergy in vitro diagnostics schemes are arranged in cooperation with UK NEQAS and SKML. The specific IgE results will be produced and reported by the organiser in charge. Labquality reports total IgE and ECP results.

NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.

LABQUALITY					
NUMERICAL SUMMARY Allergy in vitro diagnostics 4/2010					
Sample	004 Total IgE	\bar{x}	SD	CV%	Results
Total IgE	Siemens Advia 1200	47.	-	-	1
	Siemens Immulite 2000/2500	52.	5.	10.4	7
	Phadia ImmunoCAP	53.	3.	6.0	11
	Roche	56.	2.	3.1	3
	All output groups	53.	4.	7.7	22

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Ammonium ion

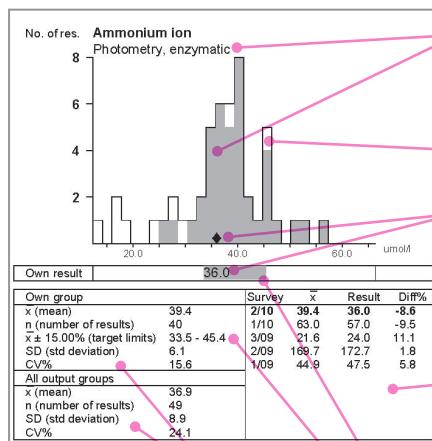
INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 * \text{uncorrected SD}$ if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

Laboratory's result is presented by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.

**Results for the laboratory's own method group (output group)**

Shaded area on the histogram shows the method group in question.

All results

The outer edges relate to all results.

Laboratory's own result

Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)

Survey: Number of the survey and year

X: Mean

Result: Laboratory's result

Diff%: Difference between laboratory's result and its method group mean (%)

The target area and limits

The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.

Assay	Output group	\bar{x}	SD	CV%	Results
Ammonium ion umol/l	Photometry, enzymatic	39.4	6.1	15.6	40
	Vitros	19.8	5.7	28.5	6
	Arkray Ammonia Test Kit II	37.0	8.5	23.1	3

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Angiotensin convertase (ACE)

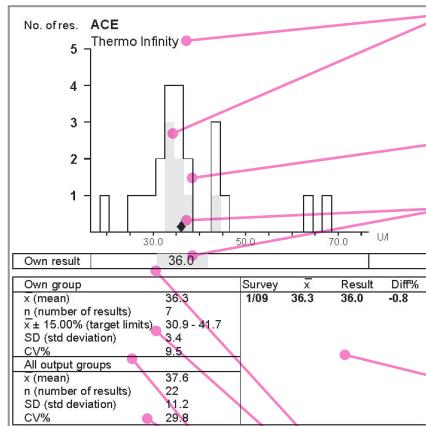
INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

Laboratory's result is presented by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.



Results for the laboratory's own method group (output group)
Shaded area on the histogram shows the method group in question.

All results
The outer edges relate to all results.

Laboratory's own result

Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)

Survey: Number of the survey and year
 \bar{x} : Mean
Result: Laboratory's result
Diff%: Difference between laboratory's result and its method group mean (%)

The target area and limits

The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.

Assay	Output group	\bar{x}	SD	CV%	Results
ACE	Audit Diagnostics	46.0	—	—	1
U/I	biotech Trinity	28.7	5.9	20.6	6
	Bühlmann	40.1	5.9	14.8	2
	Greiner Biochemica	33.0	—	—	1
	Sigma	38.0	—	—	1
	Thermo Infinity	36.3	3.4	9.5	7
	In house (IBA)	27.3	—	—	1
	In house(FABGG)	58.7	12.9	21.9	3

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Basic chemistry, POC analysers

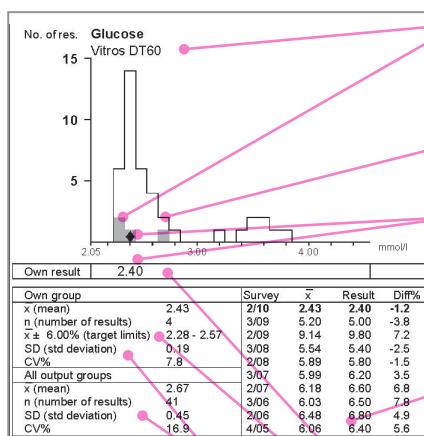
INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 * \text{uncorrected SD}$ if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

Laboratory's result is presented by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.



Results for the laboratory's own method group (output group)
Shaded area on the histogram shows the method group in question.

All results
The outer edges relate to all results.

Laboratory's own result

Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)

Survey: Number of the survey and year

x: Mean

Result: Laboratory's result

Diff%: Difference between laboratory's result and its method group mean (%)

The target area and limits

The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.

LABQUALITY					
NUMERICAL SUMMARY Basic chemistry 3/2010					
Sample	001 Sample 1	Assay	Output group	\bar{x}	SD
		Glucose mmol/l	Vitros 250-950 and 5.1	10.88	0.30
			Reflotron	11.27	0.59
			Vitros DT60	11.10	-
			Spotchem	10.40	-
			Wet chemistry	10.79	0.01
			Other instrument	11.21	0.35
			No method information	11.21	-
					2.7
					5.2
					3
					1
					1
					0.1
					3
					3.1
					1

CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Beta-hydroxybutyrate

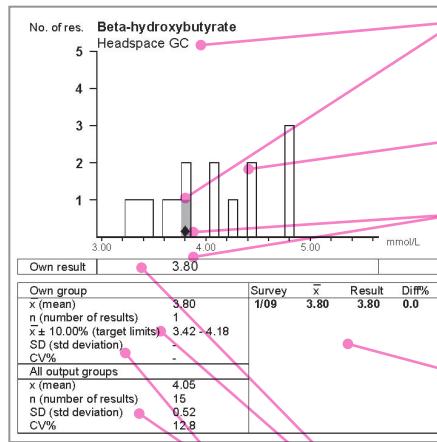
INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

Laboratory's result is presented by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.



Own group and All output groups

SD and CV are calculated if there are at least two results in a group. If there is only one, a dash (—) appears. Own result should always be compared with results in own method group.

Results for the laboratory's own method group (output group)
Shaded area on the histogram shows the method group in question.

All results

The outer edges relate to all results.

Laboratory's own result

Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)

Survey: Number of the survey and year
x: Mean
Result: Laboratory's result
Diff%: Difference between laboratory's result and its method group mean (%)

The target area and limits

The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.

Assay	Output group	\bar{x}	SD	CV%	Results
Beta-hydroxybutyrate mmol/L	Abbott Bedside tests	4.41	0.40	9.1	8
	Enzymatic tests	3.62	0.30	8.3	6
	Headspace GC	3.80	-	-	1

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Bile acids

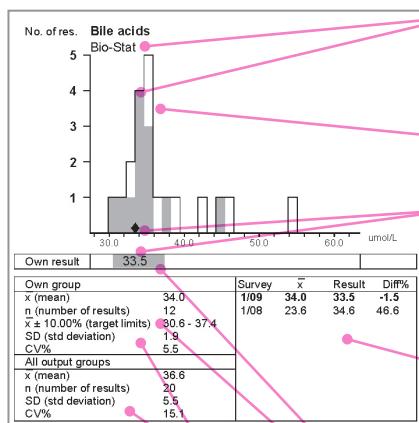
INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

Laboratory's result is presented by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.



Own group and All output groups

SD and CV are calculated if there are at least two results in a group. If there is only one, a dash (—) appears. Own result should always be compared within own method group.

Results for the laboratory's own method group (output group)

Shaded area on the histogram shows the method group in question.

All results

The outer edges relate to all results.

Laboratory's own result

Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)

Survey: Number of the survey and year

\bar{x} : Mean

Result: Laboratory's result

Diff%: Difference between laboratory's result and its method group mean (%)

The target area and limits

The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.

NUMERICAL SUMMARY Bile acids 1/2009					
Sample	001	Assay	Output group	\bar{x}	SD
		Bile acids umol/L	Bio-Stat Sentinel Trinity biotech Randox Diazyme	3.7 4.1 8.8 4.0 4.1	0.6 - 3.1 0.1 0.1
				15.7 -35.4 1.3 1.8	12 1 2 3 2
Sample	UUZ	Assay	Output group	\bar{x}	SD
		Bile acids umol/L	Bio-Stat Sentinel Trinity biotech Randox Diazyme	34.0 42.4 49.8 34.6 37.9	1.9 - 6.0 1.3 1.2
				5.5 12.1 3.9 3.2	12 2 3 2

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Bilirubin, 3-level**INDIVIDUAL RESULTS**

The individual results are presented in histograms and 3-point graphs.

3-POINT GRAPHS

The reference values are printed in bold on the x-axis. The traceability of the reference material is stated to NIST SRM 909b by the manufacturer. Black spots illustrate individual measured results; vertical lines show the target limits $\pm 12\%$. Participant's bilirubin results and the difference percentages (diff %) are in brackets. The values are also presented in a summary below the graph.

HISTOGRAMS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the group includes at least seven results.

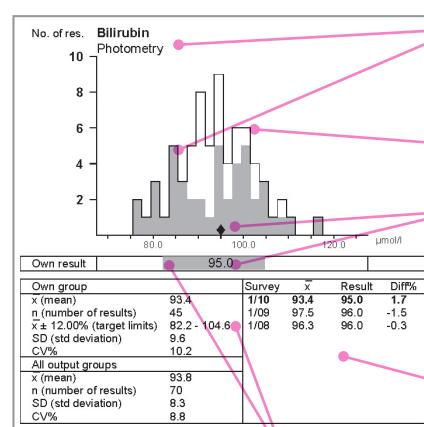
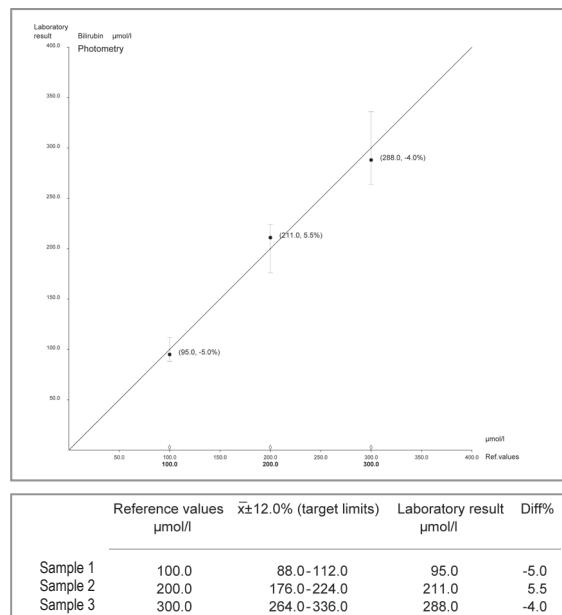
The shaded area presents the results for the own method group. The outer edges of the histogram relate to all results.

Laboratory's result is presented by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least

seven results in the method group.

The statistical values for the laboratory's own group and all

groups are printed below the histogram as well as results from previous ten surveys.

**The target area and limits**

The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

Results for the laboratory's own method group (output group)

Shaded area on the histogram presents the method group in question.

All results

The outer edges relate to all results.

Laboratory's own result

Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)

Survey: Number of the survey and year
x: Mean

Result: Laboratory's result

Diff%: Difference between laboratory's result and its method group mean (%)

NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.

Statistical parameters

- \bar{x} Corrected mean
- s, SD Corrected standard deviation
- CV% Coefficient of variation
- Results..... Number of results

NUMERICAL SUMMARY Bilirubin 1/2010							
Sample	001	Assay	Output group	\bar{x}	SD	CV%	Results
Bilirubin μmol/l		Photometry	93.4	9.6	10.2	45	
		Unknown method	87.6	—	—	1	
		Vitros T-Bil	90.0	—	—	1	
		Vitros BuBc	109.0	—	—	1	
		Bilirubinometers	95.0	4.0	4.3	12	
		Blood gas instruments	93.6	4.5	4.8	10	
Sample	002	Assay	Output group	\bar{x}	SD	CV%	Results
Bilirubin μmol/l		Photometry	202.3	20.7	10.2	45	
		Unknown method	191.9	—	—	1	
		Vitros T-Bil	204.0	—	—	1	
		Vitros BuBc	220.0	—	—	1	
		Bilirubinometers	219.4	6.2	2.8	12	
		Blood gas instruments	202.4	8.0	3.9	10	
Sample	003	Assay	Output group	\bar{x}	SD	CV%	Results
Bilirubin μmol/l		Photometry	274.5	29.4	10.7	45	
		Unknown method	263.7	—	—	1	
		Vitros T-Bil	268.0	—	—	1	
		Vitros BuBc	282.0	—	—	1	
		Bilirubinometers	302.0	9.4	3.1	12	
		Blood gas instruments	277.2	11.0	4.0	10	

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Bilirubin, conjugated

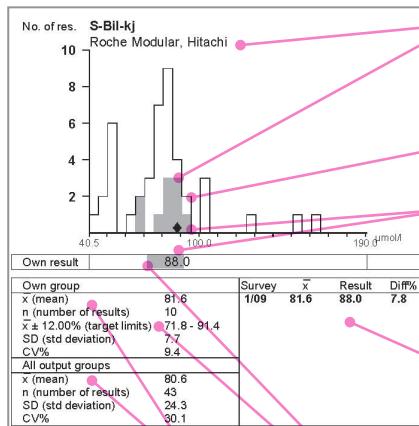
INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

Laboratory's result is presented by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.



Own group and All output groups

SD and CV are calculated if there are at least two results in a group. If there is only one, a dash (—) appears. Own result should always be compared within own method group.

Results for the laboratory's own method group (output group)
Shaded area on the histogram shows the method group in question.

All results
The outer edges relate to all results.

Laboratory's own result

Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)

Survey: Number of the survey and year
X: Mean
Result: Laboratory's result
Diff%: Difference between laboratory's result and its method group mean (%)

The target area and limits

The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.

NUMERICAL SUMMARY Bilirubin, conjugated 1/2009					
Sample	001 Sample 1	Assay	Output group	\bar{x}	SD
Bilirubin $\mu\text{mol/l}$		Abbott	171.0	1.4	0.8
		Siemens Advia	239.9	4.7	2.0
		Konelab	203.3	6.3	3.1
		Olympus	188.2	10.5	5.6
		Roche Modular, Hitachi	211.9	9.2	4.3
		Roche Cobas Integra	210.7	23.4	11.1
		Roche cobas	181.5	9.6	5.3
		Vitros	200.5	55.9	27.9
		Other	236.2	5.4	2.3
S-Bil-kj $\mu\text{mol/l}$		Abbott	85.5	3.5	4.1
		Siemens Advia	82.5	2.4	2.9
		Konelab	94.2	10.7	11.4
		Olympus	136.8	26.8	19.6
		Roche Modular, Hitachi	81.6	7.7	9.4
		Roche Cobas Integra	76.5	3.2	4.1
		Roche cobas	52.3	2.5	4.8
		Vitros	80.3	0.6	0.7
		Other	53.3	11.6	21.8

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

CRP, quantitative and semi-quantitative

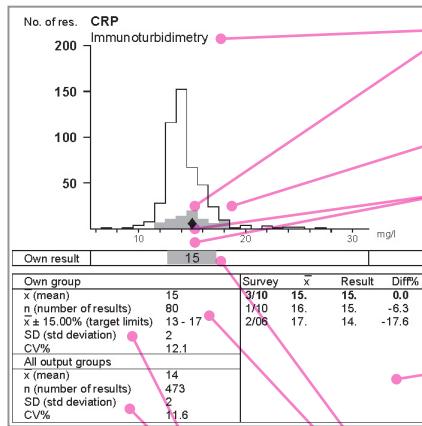
INDIVIDUAL RESULTS, QUANTITATIVE METHODS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

Laboratory's result is shown by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.



Results for the laboratory's own method group (output group)
Shaded area on the histogram shows the method group in question.

All results
The outer edges relate to all results.

Laboratory's own result
Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)
Survey: Number of the survey and year
 \bar{x} : Mean
Result: Laboratory's result
Diff%: Difference between laboratory's result and its method group mean (%)

The target area and limits
The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

Own group and All output groups
SD and CV are calculated if there are at least two results in a group. If there is only one, a dash (—) appears. Own result should always be compared with results in own method group.

NUMERICAL SUMMARY, QUANTITATIVE METHODS

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.

NUMERICAL SUMMARY C-reactive protein, quantitative 3/2010						
Sample	001 Sample 1	Assay	Output group	\bar{x}	SD	CV%
CRP	Immunoturbidimetry			15.	2.	12.0
mg/l	Nephelometry			14.	1.	5.4
	Orion QuikRead			14.	1.	10.5
	ABX Micros			14.	2.	10.7
	Axis-Shield Afinion			14.	1.	7.8
	NycoCard Reader, Single Test			14.	2.	17.3
	Vitros 250, 500, 700, 950			20.	4.	18.0
	No method information			14.	1.	4.2
	Unknown			15.	-	-
	All output groups			14.	2.	11.6
						475

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INDIVIDUAL RESULTS, SEMI-QUANTITATIVE METHODS

The semi-quantitative results were reported in six classes. The results are presented in a table for each specimen and method group.

The shaded area shows laboratory's own result and own method.

		< 10 mg/l	10-25 mg/l	25-50 mg/l	50-100 mg/l	100-200 mg/l	>200 mg/l
Sample 1							
CRP	Nycocard Visual test	-	-	1	-	-	-
	Orion Diagnostica	-	-	1	-	-	-
	Omega Diagnostics Avitex	-	8	1	1	-	-
	BioSystems	-	2	-	-	-	-
	Dialab	2	1	-	-	-	-
	Diagnosticum	-	1	1	-	-	-
	Plasmatec	1	3	-	-	-	-
	Other methods	4	6	4	1	-	-
	All output groups	7	21	8	2	-	-
Sample 2							
CRP	Nycocard Visual test	-	-	-	-	1	-
	Orion Diagnostica	-	-	-	-	1	-
	Omega Diagnostics Avitex	-	1	3	5	-	1
	BioSystems	-	-	1	1	-	-
	Dialab	-	1	2	-	-	-
	Diagnosticum	-	-	-	2	-	-
	Plasmatec	-	-	1	3	-	-
	Other methods	-	4	4	5	2	-
	All output groups	-	6	11	16	4	1

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Down's syndrome screening

INDIVIDUAL RESULTS

The results of each analyte are divided in 6 sections: histograms of both samples, a Youden plot, summary of previous survey results, concentration-dependent performance and comments.

1 Histogram

The dark blue columns show the results of your own method

group and the light blue columns relate to all results. A vertical line indicates the assigned value.

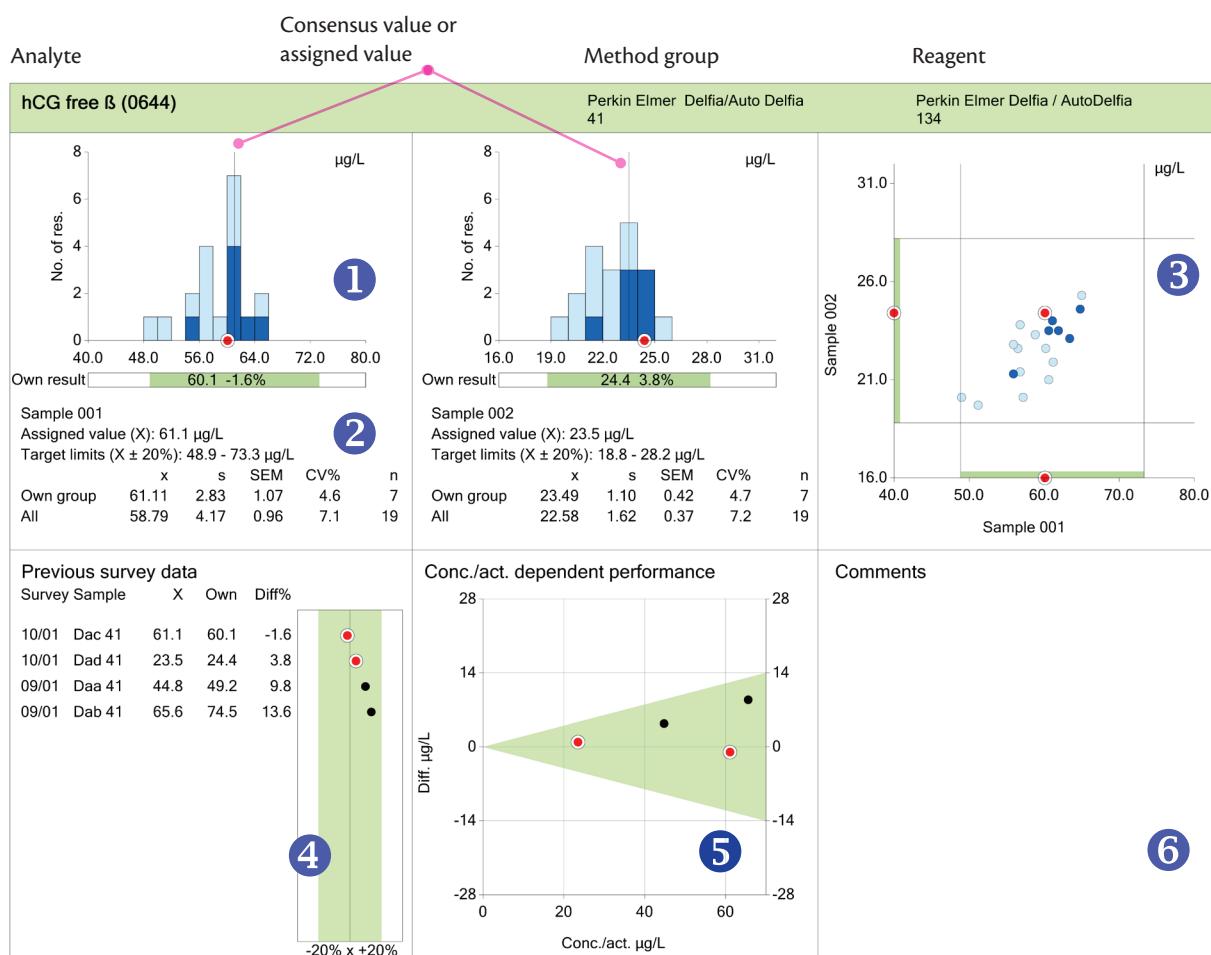
The laboratory's own result is shown by a red dot in the histogram and numerically under the histogram together with a deviation percent from the assigned value (Diff%). If laboratory's result falls outside the histogram, it is marked with a circled red x at the end of

the axis.

The green bar under the histogram shows the target limits of the method group.

2 Statistical values below the histogram

There is a table below the histogram showing statistical values for own method group and all results.



The assigned value (X, target value) and the standard deviation (s) are calculated according to the procedure described in the standard ISO 13528 (1). Sometimes if there are blunt mistakes in the original data (i.e. wrong units) personal judgement of the scheme coordinator is used and such a data is removed before calculations.

Target limits are obtained from the assigned value \pm total error% of an analyte. Standard error of the mean (SEM), coefficient of variation (CV%) and the number of results (n) are also presented in the summary table.

3 Youden plot

Results from laboratories are shown as pairs of specimen by analyte and method group. A red dot marks the laboratory's results. The dark blue dots represent pairs of results for the method group in question and light blue dots represent pairs of results for other method groups. The lines on the axes and the lines bounding these lines represent the target area for a method group. Results falling outside of the plot are seen on the edges.

4 Previous survey results

The following data of laboratory's last six surveys (if they have participated) will be shown:

- Survey (Number of the survey)
- Sample (Sample code)
- Assigned value (X)
- Own (Laboratory's own result)
- Diff % (Difference between laboratory's result and the assigned value in percentages).

Results and variations are presented graphically in a Levey-

Jennings chart together with total analytical error limits (target limits) in percentages. The results from the present survey are indicated with red dots and the previous results with black dots. Results exceeding approximately ± 1.5 * target limits are marked with a black x.

5 Concentration-dependent performance

The graphical presentation shows differences between the result and the assigned value in terms of concentration. The shaded area forms the target limits at the

functional concentration level. The result indicators (dots) and results exceeding the axis values (x) are marked as in "Previous survey data" section.

6 Comments on individual surveys and tests

Comments related to sample, analyte, method group or laboratory are presented.

Reference

1 ISO 13528:2005. Statistical methods for use in proficiency testing by interlaboratory comparisons, Annex C.

NUMERICAL SUMMARY

The robust mean (x) and the robust standard deviation (s) of each analyte and method group are obtained by iterative calculation according to the procedure described in the standard ISO 13528. The final values of (x), (s) and median (m) are presented in the numerical summary.

S and CV are calculated if there are at least two results in a method group. If there is only one result, a dash (—) appears.

Statistical parameters

X	Corrected mean
med	Median
s	Corrected standard deviation
CV%	Coefficient of variation
SEM.....	Standard error of the mean
Min	The smallest accepted result in the method group
Max.....	The largest accepted result in the method group
Number.....	Number of laboratories

Down's syndrome screening 2010/02								1(1)	
Analyte	Method group	x	med	s	CV%	SEM	Min	Max	Number
Sample 001									
PAPP-A, mU/L									
Perkin Elmer Delfia/Auto Delfia		653.6	654	15.6	2.4	11.1	643	665	2
Radioimmunoassay		1 200.0	1 200	-	-	-	-	-	1
Roche Elecsys & cobas e 411		884.6	920	97.0	11.0	48.5	742	957	4
Siemens Immulite 1000, 2000, 2500		945.0	1 050	225.5	23.9	71.3	600	1 200	10
All		911.5	950	211.6	23.2	51.3	600	1 200	17
hCG free β, µg/L									
Perkin Elmer Delfia/Auto Delfia		28.19	28.2	1.54	5.4	1.09	27.1	29.3	2
Radioimmunoassay		23.00	23.0	-	-	-	-	-	1
Roche Elecsys & cobas e 411		23.45	24.7	2.73	11.7	1.37	19.4	25.1	4
Siemens Immulite 1000, 2000, 2500		26.53	26.3	1.82	6.9	0.58	23.9	30.0	10
All		25.79	26.2	2.52	9.8	0.61	19.4	30.0	17

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Drug abuse, screening and confirmation

INDIVIDUAL SUMMARIES

1 Screening

The qualitative results are reported in three classes and presented in a table for each specimen, analyte and method group.

The shaded area shows laboratory's own result and own method.

2 Confirmation

Consultant laboratory findings are framed on the confirmation summary. If a participant has reported the confirmation results, the table will be individual. Then the client code is present at the right corner of the table. The client code on the left margin of the table indicates the own confirmation result.

3 Cut-off values

The cut-off values by analyte and method are presented in a summary table where the shaded area shows laboratory's own method and result.

		Negative	Unresolved	Positive
Cocaine + metab.	Abbott	10	-	-
	Siemens Emit	10	-	-
	Biosite Triage	3	-	-
	GC/MS	1	-	-
	LC-MS/MS	2	-	-
	Biosite Triage TOX Drug Screen	7	-	-
	Roche cobas/Modular	6	-	-
	Konelab	4	-	-
	VWR International Druglab	2	-	-
	Siemens Syva RapidTest	2	-	-
	Ulti med	2	-	-
	Cozart	1	-	-
	Olympus	1	-	-
	Innovacan	16	-	1
	DIMA Drug Screen	1	-	-
	SureScreen Diagnostics	3	-	-
	Biomedica	1	-	-
	Nal von Minden Drug-screen	2	-	-
	Labema Kasto-10	2	-	-
	i-Cassette Drug Test	1	-	-
	Biomaxima	1	-	-
	InstAlert Multi-Drug	1	-	-
	Bio-Rad TOX	2	-	-
	Other	7	-	-
	All output groups	88	-	1

Specimen 1.	Positive screening result	Method	Confirmed finding	Cut-off	Result
				µg/l	µg/l
AMPHETAMINES		GC/MS/MS	AMPHETAMINE	300	1032
AMPHETAMINES		GC+MS	AMPHETAMINE	100	979
AMPHETAMINES		GC+MS	AMPHETAMINE	100	1200
AMPHETAMINES		GC+MS	AMPHETAMINE	135	1637
AMPHETAMINES		GC+MS	AMPHETAMINE	200	1100
AMPHETAMINES		GC+MS	AMPHETAMINE		Positive
AMPHETAMINES		GC+MS	AMPHETAMINE		Positive
AMPHETAMINES		GC+MS	AMPHETAMINE		Positive
AMPHETAMINES		LC-MS	AMPHETAMINE	130	1168
AMPHETAMINES		LC-MS/MS	AMPHETAMINE	20	>500
AMPHETAMINES		LC-MS/MS	AMPHETAMINE	27	1338.5
AMPHETAMINES		LC-MS/MS	AMPHETAMINE	54.1	1333.7
AMPHETAMINES		LC-MS/MS	AMPHETAMINE	500	Positive
AMPHETAMINES		OTHER	AMPHETAMINE	100	1213
AMPHETAMINES		ROCHE COB	AMPHETAMINE	500	1045
AMPHETAMINES		TLC	AMPHETAMINE		Positive
AMPHETAMINES		LC-MS/MS	EPHEDRINE	33	119
AMPHETAMINES		GC+MS	MDPV		210
AMPHETAMINES			MDPV	20	120
AMPHETAMINES		GC+MS	METHYLFENIDATE	100	120
9999	AMPHETAMINES	KIMS		500	1100

CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Erythrocyte sedimentation rate

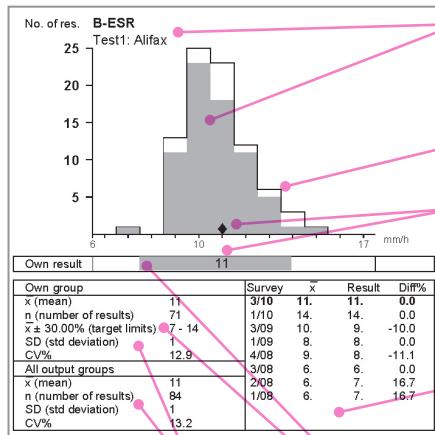
INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 * \text{uncorrected SD}$ if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

Laboratory's result is shown by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.

**Own group and All output groups**

SD and CV are calculated if there are at least two results in a group. If there is only one, a dash (—) appears. Own result should always be compared within own method group.

Results for the laboratory's own method group (output group)
Shaded area on the histogram shows the method group in question.

All results
The outer edges relate to all results.

Laboratory's own result
Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)
Survey: Number of the survey and year
x: Mean
Result: Laboratory's result
Diff%: Difference between laboratory's result and its method group mean (%)

The target area and limits
The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.

Sample	002	Assay	Output group	\bar{x}	SD	CV%	Results
B-ESR		mm/h	Test1: Alifax	11.	1.	12.9	71
			MicroTEST1: Alifax	10.	1.	14.1	2
			Roller 10: Alifax	11.	2.	20.2	2
			Roller 20: Alifax	12.	2.	13.6	9
			All output groups	11.	1.	13.2	84

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Faecal blood**NUMERICAL SUMMARY WITH INDIVIDUAL RESULTS**

The results are presented in a table for each specimen, assay and method group.

The shaded area shows laboratory's own result and the own method group.

	neg.	weak pos.	pos.
Specimen 1			
F-Hb			
actim Fecal Blood, Medix Biochemica	2	4	160
Hemolex La, Orion Diagnostica	-	1	2
QuikRead FOB, Orion Diagnostica	-	-	3
Hexagon OBTI, Human	-	-	6
Hemoccult Sensa, Beckman Coulter	1	1	14
Hemoplus, Sarstedt	-	-	4
hemo FEC, Med-Kjemi	-	-	2
Hema screen, Immunostics	1	-	16
immoCARE-C, CARE diagnostica	-	1	-
Hemosure, W-H	-	1	1
Occult Blood tests, Ameritek	1	-	7
FOB; Innovacan	1	-	4
Divi-Dent, SIA	-	-	1
Haemoccult II	-	-	2
HEXA CON OBScreen, Human	-	1	1
dBest One Step OB test strip, Olympus	-	-	6
FOB Q-flow; Orion	-	-	1
HEMDETECT, DIPROMed	-	-	1
HemoCare, Care Diagnostica	-	-	1
Cenogenics	-	-	7
FOBY, BioSigma	1	-	7
DIMA Rapid Test; Dima & MKBio	-	-	2
Fecal Occult Blood, Linear Chemicals	-	1	-
HEMOSTICK, Gamma	-	-	2
HEMOtest, Stamar	-	-	1
Electrophoresis	-	-	1
HEMO-PACK, Syntron Bioresearch	-	1	3
FOB TEST, Dialab	-	-	1
HSV-10 Faecal Blood; VedaLab	-	2	1
Fob One Step Fecal Occult Blood, SureScreen	-	2	8
Faecal Occult Blood Test Cassette, Ultimed	-	-	1
Fecal Occult Blood Test, Medic-Pharm	-	-	1
ChemTrue; Biotech Co Ltd.	-	-	4
Hem-Check Strip; VedaLab	-	1	4
No method information	-	3	30
All output groups	7	19	305

CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Folate, erythrocytes

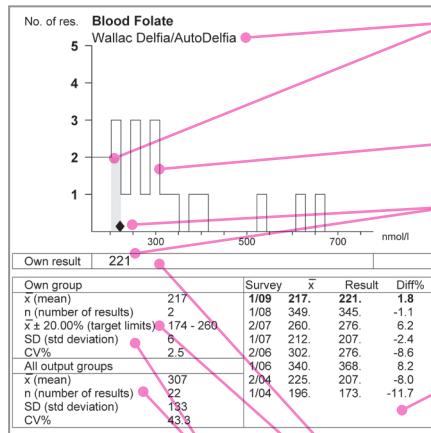
INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

Laboratory's result is shown by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.



Own group and All output groups

SD and CV are calculated if there are at least two results in a group. If there is only one, a dash (—) appears. Own result should always be compared within own method group.

Results for the laboratory's own method group (output group)
Shaded area on the histogram shows the method group in question.

All results
The outer edges relate to all results.

Laboratory's own result

Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)

Survey: Number of the survey and year
x: Mean
Result: Laboratory's result
Diff%: Difference between laboratory's result and its method group mean (%)

The target area and limits

The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.

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NUMERICAL SUMMARY Erythrocyte Folate 1/2009					
Sample	001	Assay	Output group	\bar{x}	SD
Haematocrit %		All		37.	2.
		All output groups		37.	2.
Blood Folate nmol/l		Abbott Architect		226.	42.
		Siemens Advia Centaur		352.	89.
Erythrocyte Folate nmol/l		Beckman Coulter, Access		296.	-
		Wallac Delfia/AutoDelfia		217.	6.
		Roche Modular E		594.	63.
		All output groups		313.	139.
		Abbott Architect		601.	112.
		Siemens Advia Centaur		963.	253.
		Beckman Coulter, Access		785.	-
		Wallac Delfia/AutoDelfia		561.	-
		Roche Modular E		1580.	231.
		All output groups		901.	422.
					46.9
					24

CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Glucose meters

INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

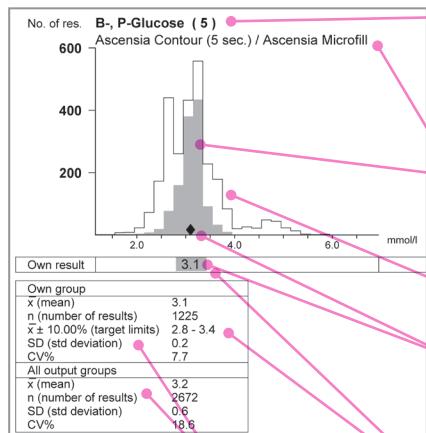
Laboratory's result is shown by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.

NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.



Own group and All output groups

SD and CV are calculated if there are at least two results in a group. If there is only one, a dash (—) appears. Own result should always be compared within own method group.

Instrument identification

The code is optional and it is possible that results from survey to survey are not measured by the same instrument. That is why summary of instrument's last ten surveys is missing under the histogram.

Results for the laboratory's own method group (output group)

Shaded area on the histogram shows the method group in question.

All results

The outer edges relate to all results.

Laboratory's own result

Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

The target area and limits

The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

NUMERICAL SUMMARY Glucose meters 3/2010					
Sample	001	Assay	Output group	\bar{x}	SD
B- P-Glucose mmol/l		Accu-Chek Performa / Accu-Chek Performa	3.4	0.2	6.9
		Accu-Chek Aviva/Accu-Chek Aviva	3.5	0.2	6.0
		Accu-Chek Compact Plus / Accu-Chek Comp	4.8	0.3	5.7
		AccuChek Sensor /Acc.Sen.Comfort TestStrip	3.0	0.3	8.5
		Accutrend GGT/GCT TestStrip	3.3	-	-
		Accu-Chek Inform /Accu-Chek Inform	3.4	0.2	5.1
		Accu-Chek Active/Accu-Chek Active	5.2	0.3	5.9
		Glucometer:II,GX,M / Glucostix TestStrip	3.3	-	-
		One Touch:Basic,II/Profile/One Touch	2.4	0.1	3.0
		One Touch Ultra/One Touch Ultra	2.5	0.3	12.1
		One Touch Ultra Easy/One Touch Ultra Easy	2.5	0.2	9.6
		One Touch Ultra 2/One Touch Ultra 2	2.5	0.3	10.5
		One Touch Ultra Smart/One Touch Ultra Smart	2.2	0.0	0.0
		Precision Xceed Xtra/Prec.Xtra 5 sec. stripe	4.1	0.4	9.9
		Precision Xceed Xtra/Prec.Xtra 3 sec. stripe	4.0	0.5	12.9
		Precision Xceed Xtra/Precision H stripe	4.6	0.3	5.5
		PCX/(POC)instr.(version 2.0.2.1.2.2)/PCX stripe	3.6	-	-
		PCX/(POC)instr.(version 2.2)/PCX Plus stripe	4.7	0.2	4.3
		Glucocard II/Super Glucoc. II/Glucocard II	2.3	0.4	19.4
		Glucocard X-Meter / X-Sensor	3.2	0.2	6.7
		Ascensia Elite/Ascensia Elite	2.3	0.2	7.9
		Ascensia Elite XL / Ascensia Elite	2.1	0.1	2.4
		Ascensia Breeze / Ascensia Autodisc	2.5	0.3	14.0
		Ascensia Contour (15 sec.) / Ascensia Microfill	2.6	0.1	5.0
		Ascensia Contour (5 sec.) / Ascensia Microfill	3.1	0.2	7.7
		FreeStyle Mini/Freedom-FreeStyle stripe	4.3	-	-
		FreeStyle Lite, Freedom Lite/FreeStyle Lite	3.6	0.2	6.7
		Ebio, Biosen	3.4	0.2	6.2
		On Call Plus/On Call Plus	2.4	0.6	24.1
		YSI 2300 Plus	3.5	0.2	6.1
		On Call Advanced	2.9	0.1	1.7
		Super-G, Super-GL	3.5	0.2	4.7
		Other instrument / other strip	3.6	0.4	10.8

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY
Haemoglobin, 3-level

INDIVIDUAL RESULTS

The individual results are presented in 3-point graphs and histograms.

3-POINT GRAPHS

The reference values are printed in bold on the x-axis. Black spots illustrate individual measured results; vertical lines show the target limits $\pm 5\%$. Participant's haemoglobin results and the difference percentages (diff%) are in brackets. The values are also presented in a summary below the graph.

Linearity

The deviation from linearity (linearity coefficient, %), is calculated from the relative difference of two slopes ($k_2 - k_1$)/ k_1 , see Fig 1.

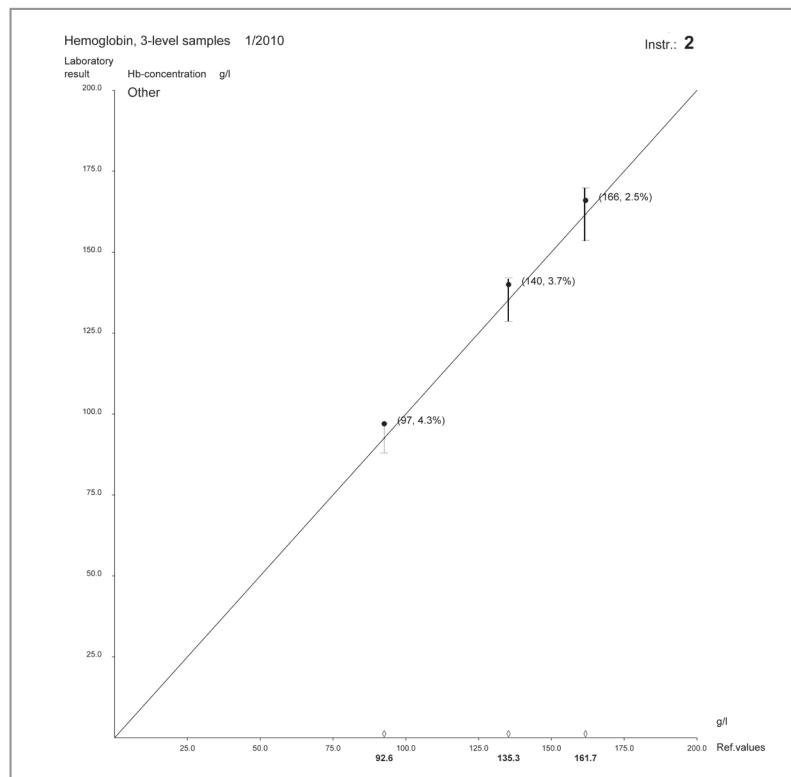
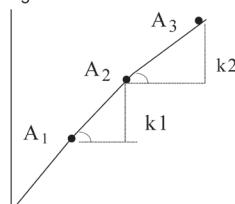


Fig. 1.



Reference values g/l	$\bar{x} \pm 5.0\%$ (target limits)	Laboratory result g/l	Diff%
Sample 1 92.6	88.0-97.2	97.	4.3
Sample 2 135.3	128.5-142.1	140.	3.7
Sample 3 161.7	153.7-169.8	166.	2.5

Summary of reference values, target limits, laboratory's own results and differences between own results and method group means.

Lin.factor	Own	Own group	
	neg. pcs.	pos. pcs.	
-2 %	2	5	

Laboratory's own linearity factor and the number of negative and positive linearity factors in the own method group.

Trueness

To estimate the trueness of own results the assigned values $\pm 5\%$ are used. Own result should lie within target limits which means that the Diff% should be less than 5%. If the results are not within the target limits, the Hb-meter should be checked and re-calibrated.

NUMERICAL SUMMARY

The statistical values in a numerical summary are calculated similarly to the values under the histogram. A numerical summary shows all results by sample and by method group.

SD is calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.

Statistical parameters

- \bar{x} Corrected mean
- SD Corrected standard deviation
- n Number of results
- Lin. factor Linearity factor
- neg/pos Number of negative and positive linearity factors in the own method group.

LABQUALITY						
Hemoglobin, 3-level samples 1/2010						
Hb-concentration	Sample 001 \bar{x} 93 g/l	Sample 002 \bar{x} 135 g/l	Sample 003 \bar{x} 162 g/l		Lin.factor	
Hemocue	\bar{x} 94 g/l SD 4 g/l n 133	\bar{x} 139 g/l SD 7 g/l n 131	\bar{x} 166 g/l SD 11 g/l n 134		neg	66
Blood gas analysers	\bar{x} 100 g/l SD - g/l n 4	\bar{x} 137 g/l SD - g/l n 4	\bar{x} 163 g/l SD - g/l n 4		pos	1
Other	\bar{x} 96 g/l SD 2 g/l n 8	\bar{x} 140 g/l SD 10 g/l n 7	\bar{x} 165 g/l SD 4 g/l n 8		neg	2
					pos	5

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Haemoglobin A1c

INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

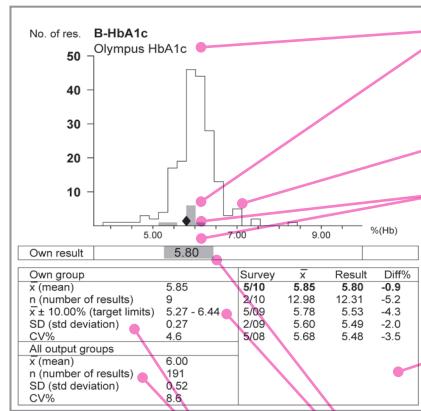
Laboratory's result is shown by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.

NUMERICAL SUMMARY

The statistical values in a numerical summary are calculated similarly to the values under the histogram. A numerical summary shows all results by sample and method group.

SD and CV are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.



Own group and All output groups

SD and CV are calculated if there are at least two results in a group. If there is only one, a dash (—) appears. Own result should always be compared within own method group.

Results for the laboratory's own method group (output group)

Shaded area on the histogram shows the method group in question.

All results

The outer edges relate to all results.

Laboratory's own result

Own result is shown as a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)

Survey: Number of the survey and year

X: Mean

Result: Laboratory's result

Diff%: Difference between laboratory's result and its method group mean (%)

The target area and limits

The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

LABQUALITY NUMERICAL SUMMARY Haemoglobin A1c 5/2010					
Sample	Output group	\bar{x}	SD	CV%	Results
B-HbA1c	Ion Exchange HPLC, Tosoh	5.64	0.15	2.7	5
%(Hb)	Ion Exchange MicroColumn, Bio-Rad	6.10	-	-	1
	Micromat 2, Bio-Rad	5.57	-	-	1
	Ion Exchange HPLC, Human	4.00	-	-	1
	Beckman Synchron CX	5.80	-	-	1
	Ion Exchange Microcolumn, Biosystems	4.91	-	-	1
	HPLC, D-10, Bio-Rad	5.77	0.12	2.0	3
	DCA 2000+ & DCA Vantage, Siemens	6.33	0.18	2.8	30
	ADVIA, Siemens	6.00	0.69	11.5	4
	Dimension RxL, Siemens	5.80	0.25	4.3	4
	Olympus HbA1c	5.85	0.27	4.6	9
	Randox HbA1c	6.61	-	-	1
	ABX reagents (Cobas Mira, Synchron CX)	6.55	1.20	18.4	2
	Nycocard HbA1c, Medinor	8.40	-	-	1
	HbA1c FS, Diasys	6.35	0.35	5.6	2
	Vitros, Ortho-Clinical Diagnostics	6.27	0.12	1.8	3
	KoneLab HbA1c test, Thermo Fisher Scientific	5.98	0.40	6.7	40
	Abbott Architect	5.84	0.30	5.2	9
	HbA1c, Abbott AxSYM	6.73	0.40	6.0	3
	cobas (501-311-111) TinaQuant, Roche	6.02	0.18	2.9	10
	cobas 6000, Roche	5.83	0.39	6.7	6
	Hitachi, TinaQuant, Roche	5.80	0.93	16.0	13
	Integra, Roche	6.03	0.24	4.0	27
	Ion Exchange HPLC, Variant II Turbo, Bio-Rad	5.60	0.10	1.8	3
	Others	5.74	0.70	12.2	11
All output groups		6.00	0.52	8.6	191

The results are divided into groups according to the method. If the results are reported without method specification they are grouped under Other. Variation in this group is usually higher than in the well-characterised method groups.

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Haemoxyimeters

INDIVIDUAL RESULTS

The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results $\pm 3 \times$ uncorrected SD if the group includes at least seven results.

The shaded area shows the results for the own method group. The outer edges of the histogram relate to all results.

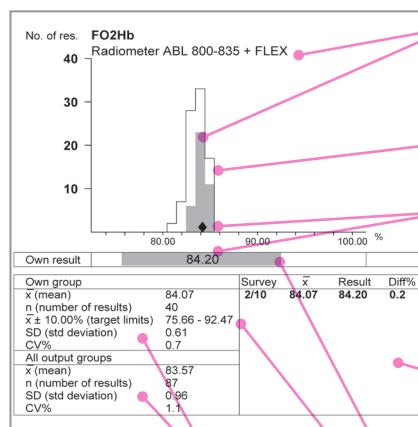
Laboratory's result is shown by a black diamond on the histogram and numerically below the histogram. If a result falls beyond the scale of the axis, it is shown by an arrow instead of a diamond. The graphical target limits are shown in a box if there are at least seven results in the method group.

The statistical values for the laboratory's own group and all groups are printed below the histogram as well as results from previous ten surveys.

NUMERICAL SUMMARY

The statistical values in numerical summaries are calculated similarly to the values under the histogram.

The numerical summary shows all results by method. CV and SD are calculated if there are at least two results in a method group. If there is only one, a dash (—) appears.



Results for the laboratory's own method group (output group)
Shaded area on the histogram shows the method group in question.

All results
The outer edges relate to all results.

Laboratory's own result
Own result is shown by a black diamond on the histogram and numerically in the box below the histogram. If a result falls beyond the scale of the axis, it is shown as an arrow instead of a diamond.

Summary of laboratory's last ten surveys (if participated)
Survey: Number of the survey and year
 \bar{x} : Mean
Result: Laboratory's result
Dif%: Difference between laboratory's result and its method group mean (%)

The target area and target limits
The graphical target area is shown in grey in the same box as the laboratory's result below the histogram. The area is shown if there are seven or more results in a method group. The limits are presented numerically in the section "Own group".

LABQUALITY					
NUMERICAL SUMMARY Haemoxyimeters 2/2010					
Sample	Output group	\bar{x}	SD	CV%	Results
F02Hb	Roche OMNI S/cobas b 221	82.24	1.35	1.6	5
%	Siemens RapidLab 855	-	-	-	1
	Siemens RapidLab 865	82.85	0.35	0.4	2
	Siemens RapidLab 1265	82.90	0.51	0.6	21
	IL GEM OPL	85.00	-	-	1
	Radiometer ABL 700-735	83.79	0.97	1.2	14
	Radiometer ABL 800-835 + FLEX	84.07	0.61	0.7	40
	Other method	82.60	1.41	1.7	2
	No method information	84.70	-	-	1
	All output groups	83.57	0.96	1.1	87
FCOHB	Roche OMNI S/cobas b 221	3.83	0.21	5.4	6
%	Siemens RapidLab 855	6.10	-	-	1
	Siemens RapidLab 865	5.35	0.21	4.0	2
	Siemens RapidLab 1265	4.96	0.26	5.2	21
	IL GEM OPL	7.30	-	-	1
	Radiometer ABL 700-735	4.01	0.64	15.9	14
	Radiometer ABL 800-835 + FLEX	3.95	0.77	19.5	42
	Other method	7.00	1.84	26.3	2
	No method information	3.50	-	-	1
	All output groups	4.34	0.95	22.0	90

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CLINICAL CHEMISTRY 2 – SPECIAL CHEMISTRY

Hormones A and B**INDIVIDUAL RESULTS**

The results of each analyte are divided in 6 sections: histograms of both samples, a Youden plot, summary of previous survey results, concentration-dependent performance and comments.

1 Histogram

The dark blue columns show the results of your own method

group and the light blue columns relate to all results. A vertical line indicates the assigned value.

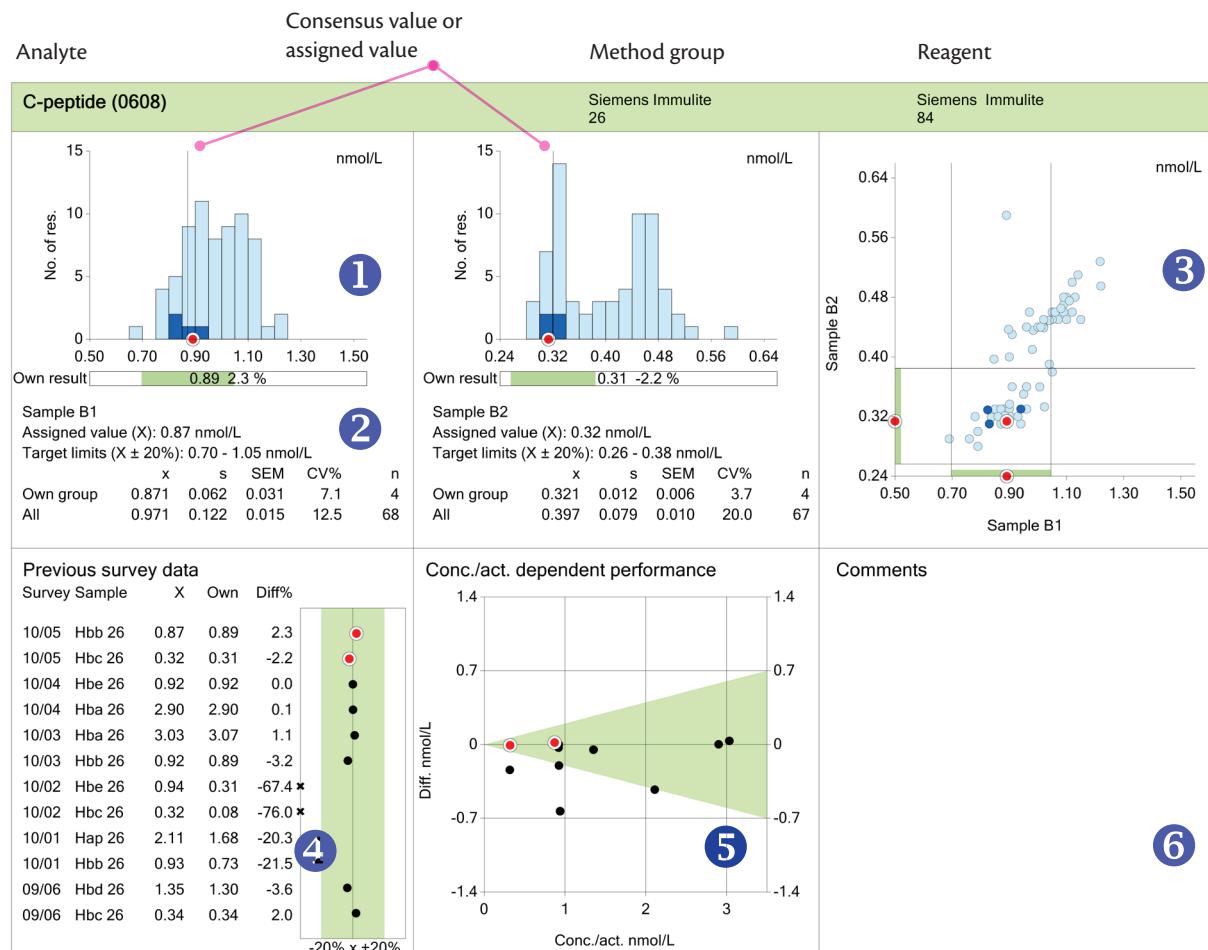
The laboratory's own result is shown by a red dot in the histogram and numerically under the histogram together with a deviation percent from the assigned value (Diff%). If laboratory's result falls outside the histogram, it is marked with a circled red x at the end of

the axis.

The green bar under the histogram shows the target limits of the method group.

2 Statistical values below the histogram

There is a table below the histogram showing statistical values for own method group and all results.



The assigned value (X, target value) and the standard deviation (s) are calculated according to the procedure described in the standard ISO 13528 (1). Sometimes if there are blunt mistakes in the original data (i.e. wrong units) personal judgement of the scheme coordinator is used and such data is removed before calculations.

Target limits are obtained from the assigned value \pm total error% of an analyte. Standard error of the mean (SEM), coefficient of variation (CV%) and the number of results (n) are also presented in the summary table.

3 Youden plot

Results from laboratories are presented as pairs of specimen by analyte and method group. A red dot marks the laboratory's results. The dark blue dots represent pairs of results for the method group in question and light blue dots represent pairs of results for other method groups. The lines on the axes and the lines bounding these lines represent the target area for a method group. Results falling outside of the plot are seen on the edges.

4 Previous survey results

The following data of laboratory's last six surveys (if they have participated) will be shown:

- Survey (Number of the survey)
- Sample (Sample code)
- Assigned value (X)
- Own (Laboratory's own result),
- Diff % (Difference between laboratory's result and the assigned value in percentages).

Results and variations are presented graphically in a Levey-Jen-

nings chart together with total analytical error limits (target limits) in percentages. The results from the present survey are indicated with red dots and the previous results with black dots. Results exceeding approximately $\pm 1.5 * \text{target limits}$ are marked with a black x.

5 Concentration-dependent performance

The graphical presentation shows differences between the result and the assigned value in terms of concentration. The shaded area forms the target limits at the

functional concentration level. The result indicators (dots) and results exceeding the axis values (x) are marked as in "Previous survey data" section.

6 Comments on individual surveys and tests

Comments related to sample, analyte, method group or laboratory are presented.

Reference

- 1 ISO 13528:2005. Statistical methods for use in proficiency testing by interlaboratory comparisons, Annex C.

NUMERICAL SUMMARY

The robust mean (x) and the robust standard deviation (s) of each analyte and method group are obtained by iterative calculation according to the procedure described in the standard ISO 13528. The final values of (x), (s) and median (m) are presented in the numerical summary.

S and CV are calculated if there are at least two results in a method group. If there is only one result, a dash (—) appears.

Statistical parameters

X	Corrected mean
med	Median
s	Corrected standard deviation
CV%	Coefficient of variation
SEM.....	Standard error of the mean
Min	The smallest accepted result in the method group
Max.....	The largest accepted result in the method group
Number.....	Number of laboratories

Hormone Determinations B 2010/05								1(10)	
Analyte	Method group	x	med	s	CV%	SEM	Min	Max	Number
Sample B1									
C-peptide, nmol/L									
Abbott Architect		0.938	0.94	0.046	4.9	0.023	0.90	0.98	4
DiaSorin Liaison		1.123	1.12	0.029	2.5	0.018	1.10	1.15	3
No method information		1.082	1.08	0.094	8.7	0.068	1.02	1.14	2
Perkin Elmer Delfia/Auto Delfia		0.963	0.93	0.086	8.9	0.050	0.91	1.05	3
Roche Elecsys & cobas e 411		1.050	1.05	0.114	10.9	0.043	0.89	1.22	7
Roche Modular E & cobas e 601		1.058	1.06	0.063	5.9	0.015	0.85	1.22	18
Siemens Advia Centaur & ACS		0.800	0.79	0.067	8.4	0.024	0.69	0.88	8
Siemens Double Antibody		1.120	1.12	-	-	-	-	-	1
Siemens Immulite		0.871	0.86	0.062	7.1	0.031	0.82	0.94	4
Siemens Immulite 2000		0.917	0.90	0.045	5.0	0.014	0.86	1.01	11
Siemens Immulite 2500		0.900	0.90	0.057	6.3	0.023	0.84	0.96	6
Tosoh AIA		1.040	1.04	-	-	-	-	-	1
All		0.971	0.96	0.122	12.5	0.015	0.69	1.22	68

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