Cells in body fluid
EQA report 01/2026

Program no.:	Analysis period:	Deadline for reporting:	Published
4248 DK	20.01.2026 – 21.01.2026	26.01.2026	03.02.2026

Number of participants
There are 48 participants in the program, and 46 of them have reported results, providing a total of 72 result sets across three different instrument types: GloCyte, Sysmex XN, and Sysmex XR.
A few participants have used microscopy for counting erythrocytes and nucleated cells.

EQA material
Based on earlier tests and the results from this round, the materials are assessed to be homogeneous, stable, and suitable for this EQA program.
The EQA materials issued were Cellpack DCL supplemented with cells from the buffy coat and erythrocytes from EDTA samples.

Statistics
The acceptance range is calculated based on the overall mean, assuming that the results are normally distributed. For each component, it is assessed whether the results follow a normal distribution. This is done by comparing the mean and the median. The difference between them must not exceed a predefined percentage of the acceptance interval**.**
For both samples and all components, it is assessed that the results follow a normal distribution

Target values
The recommended target values (M) shown in the histograms are the mean value of all results, excluding outliers.

Outliers
Outliers are defined as a result, which is more than 3.2 SD from the target value.
A total of 32 outliers were identified. Of these, 20 were classified as manual outliers.
There are 2 different types of manuel outliers:

- Results from analyses where the stability period has been exceeded
- Results that are considered to deviate significantly from the rest of the dataset, even if they do not necessarily fall outside 3.2 standard deviations from the mean. This may be due to the result differing markedly from those of other participants, or because it is a derived parameter. The derived parameters include mononuclear and polynuclear leukocytes, which are classified as outliers when the total leukocyte count is an outlier, regardless of whether the result falls within 3.2 standard deviations from the mean.

Acceptance interval
Acceptance intervals are set as expert judgment based on what is clinically relevant.

Csf—Erythrocytes; num.c.	± 20 %
Other components	± 40 %

Results and comments

Most of the participants' results originate from Sysmex XN and XR, therefore the overall mean value is influenced by this.

Interpretation of report

You can see instructions for interpreting the report here:
deks.dk/en/products/information-about-the-deks-programs/interpretation-of-reports/

Components

No comments are provided on the GloCyte results, as there is only a single result for each component

Csf—Erythrocytes; num.c., Csf-Leukocytes; num.c., and Csf-Nucleated cells; num.c

There is good agreement among the participants' results for both samples, for both automated counting and microscopy. The observed variation (CV%) is consistent with previous rounds.
No differences are observed either between the individual analysis days or between the modules used.

In manual microscopy, slightly lower values are observed for Csv-Erythrocytes; count and Csv-Nucleated cells; count compared with the automated counting.

Other components

The variations (CV%) between the results are in the same level as usual.

Rounds in 2026

Round	Issued by DEKS	Analysis Period	Reporting Deadline
02	13.04.	14.04. – 15.04.	20.04.
03	14.09.	15.09. – 16.09.	21.09.
04	09.11.	10.11. – 11.11.	16.11.

Kind regards
Karin Heidemann og Dår Kur

Components, translation Danish names to Swedish names

Danish name	Swedish name	Unit
Csv-Erythrocytter; antalk.	Csv—Erytrocyter;ant konc	10^6/L
Csv-Kerneholdige celler; antalk.	Csv—Kärnförande celler;ant konc	10^6/L
Csv-Leukocytter; antalk.	Csv—Leukocyter;ant konc	10^6/L
Csv-Leukocytter (mononukl.); antalk.	Csv—Leukocyter(mono);ant konc	10^6/L
Csv-Leukocytter (polynukl.); antalk.	Csv—Leukocyter(poly);ant konc	10^6/L
Lkcs(Csv)-Leukocytter (mononukl.); antalfr.	Lkc(Csv)—Leukocyter(mono);ant fr	%
Lkcs(Csv)-Leukocytter (polynukl.);antalfr.	Lkc(Csv)—Leukocyter(poly);ant fr	%

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Approved by
KD
03.02.2026

Component	Mean	Sd	CV	sem	N	Outliers
Csv- Erythrocytterantalk. Sample 'Gmlm'						
Alle	2466	278	11,26	32,5	73	1
Flowcytometri	2489	274	11,03	33,8	66	1
Fluorescens	2667				1	0
Manuelt	2188	158,3	7,23	64,6	6	0
Csv- Erythrocytterantalk. Sample 'Hcbc'						
Alle	1621	232	14,32	27,2	73	1
Flowcytometri	1637	224	13,66	27,5	66	1
Fluorescens	2000				1	0
Manuelt	1385	165,7	11,97	67,7	6	0
Csv- Kerneholdige cellerantalk. Sample 'Gmlm'						
Alle	38	3,27	8,72	0,423	60	2
Flowcytometri	38	3,07	8,13	0,422	53	2
Fluorescens	38				1	0
Manuelt	35	4,54	12,9	1,851	6	0
Csv- Kerneholdige cellerantalk. Sample 'Hcbc'						
Alle	65	11,77	18,03	1,519	60	2
Flowcytometri	66	11,41	17,29	1,567	53	2
Fluorescens	68				1	0
Manuelt	58	14,57	25	5,95	6	0
Csv- Leukocytter (mononukl.)antalk. Sample 'Gmlm'						
Alle	12,4	5,29	42,8	0,695	58	3
Flowcytometri	12,4	5,29	42,8	0,695	58	3
Csv- Leukocytter (mononukl.)antalk. Sample 'Hcbc'						
Alle	10,3	3,29	31,9	0,44	56	5
Flowcytometri	10,3	3,29	31,9	0,44	56	5
Csv- Leukocytter (polynukl.)antalk. Sample 'Gmlm'						
Alle	25	5,41	21,9	0,711	58	3
Flowcytometri	25	5,41	21,9	0,711	58	3
Csv- Leukocytter (polynukl.)antalk. Sample 'Hcbc'						
Alle	53	9,05	17,1	1,178	59	2
Flowcytometri	53	9,05	17,1	1,178	59	2
Csv- Leukocytterantalk. Sample 'Gmlm'						
Alle	37	3,27	8,86	0,493	44	1
Flowcytometri	37	3,27	8,86	0,493	44	1
Csv- Leukocytterantalk. Sample 'Hcbc'						
Alle	64	9,31	14,63	1,388	45	0
Flowcytometri	64	9,31	14,63	1,388	45	0
Lkcs(Csv)- Leukocytter (mononukl.)antalfr. Sample 'Gmlm'						
Alle	33	14,91	44,6	2,22	45	3
Beregning	33	14,91	44,6	2,22	45	3
Lkcs(Csv)- Leukocytter (mononukl.)antalfr. Sample 'Hcbc'						
Alle	17	7,44	43,8	1,109	45	3
Beregning	17	7,44	43,8	1,109	45	3
Lkcs(Csv)- Leukocytter (polynukl.)antalfr. Sample 'Gmlm'						
Alle	67	14,91	22,4	2,22	45	3
Beregning	67	14,91	22,4	2,22	45	3
Lkcs(Csv)- Leukocytter (polynukl.)antalfr. Sample 'Hcbc'						
Alle	83	7,42	8,94	1,107	45	3
Beregning	83	7,42	8,94	1,107	45	3

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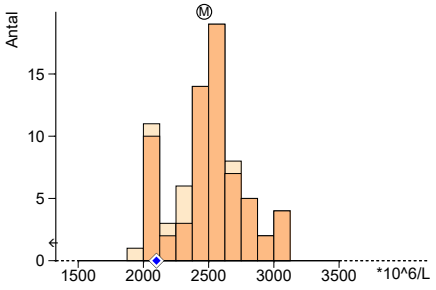
Udsendelse 1 - 2026. Laboratorie nr. 500, resultat id. 500

Metodesæt 1 ()

Csv- Erythrocytter{antalk.} - NPU01962

Instrument: Sysmex XN
Principgruppe: Flowcytometri

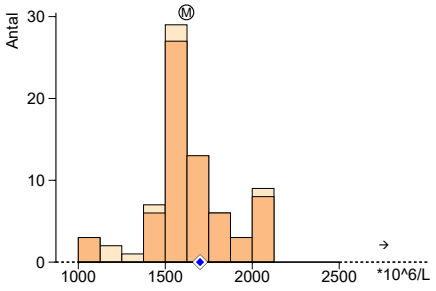
Gmlm ('Sample A')



Eget resultat: 2100 *10^6/L (afv. -14,9%)
Middelværdi af alle (M): 2466 *10^6/L
Acceptinterval (M ± 20%): 1973 - 2960 *10^6/L

	Middel	sd	CV%	SEM	N
Principgruppe	2489	274,39	11,0	33,8	66
Alle	2466	277,79	11,3	32,5	73

Hcbc ('Sample B')

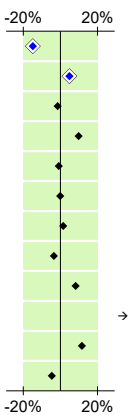


Eget resultat: 1700 *10^6/L (afv. 4,8%)
Middelværdi af alle (M): 1621 *10^6/L
Acceptinterval (M ± 20%): 1297 - 1946 *10^6/L

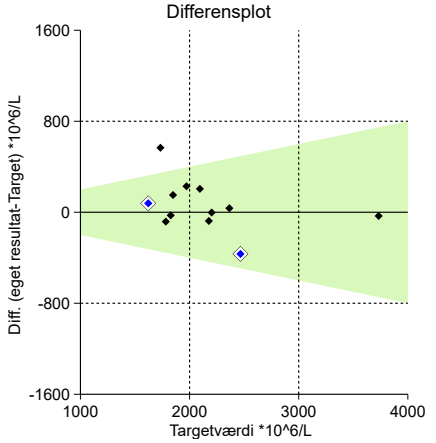
	Middel	sd	CV%	SEM	N
Principgruppe	1637	223,66	13,7	27,5	66
Alle	1621	232,26	14,3	27,2	73

Historik

Uds.	Materiale	Target	Eget	%dif
26/01	Gmlm	2466	2100	-14,9
26/01	Hcbc	1621	1700	4,8
25/04	Bfjb	1827	1800	-1,5
25/04	Cptl	2094	2300	9,8
25/03	Iotl	3733	3700	-0,9
25/03	Jejb	2202	2200	-0,1
25/02	Gotl	2365	2400	1,5
25/02	Hejb	2176	2100	-3,5
25/01	Grsl	1848	2000	8,2
25/01	Hhib	1733	2300	32,7
24/04	Dhfb	1972	2200	11,6
24/04	Crpl	1782	1700	-4,6



Differensplot

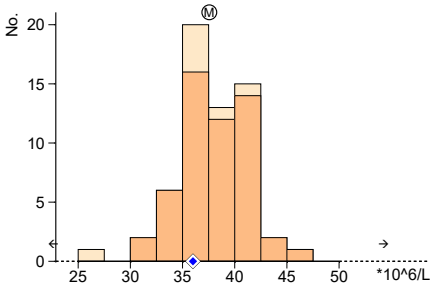


Metodesæt 1 ()

Csv- Kerneholdige celler{antalk.} - NPU28838

Instrument: Sysmex XR-9000
Principgruppe: Flowcytometri

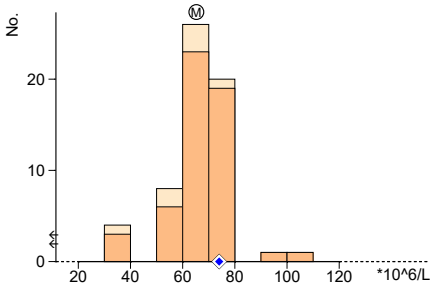
Gmlm ('Sample A')



Own result: 36 *10^6/L (dev. -4,2%)
Mean of all (M): 37,6 *10^6/L
Acceptance interval (M ± 40%): 22,5 - 52,6 *10^6/L

	Mean	sd	CV%	SEM	N
Principle group	37,8	3,07	8,1	0,4	53
All	37,6	3,27	8,7	0,4	60

Hcbc ('Sample B')

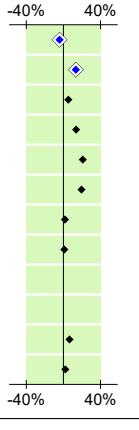


Own result: 74 *10^6/L (dev. 13,4%)
Mean of all (M): 65,3 *10^6/L
Acceptance interval (M ± 40%): 39,2 - 91,4 *10^6/L

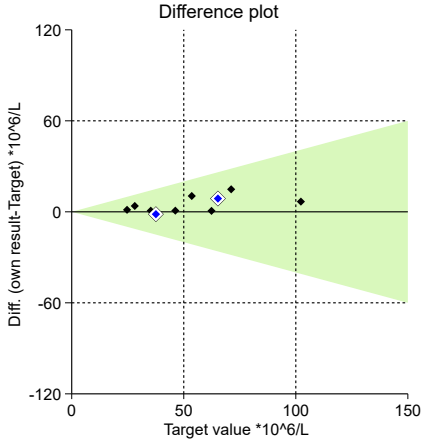
	Mean	sd	CV%	SEM	N
Principle group	66,0	11,41	17,3	1,6	53
All	65,3	11,77	18,0	1,5	60

History

Round	Material	Target	Own	%dif
26/01	Gmlm	37,6	36	-4,2
26/01	Hcbc	65,3	74	13,4
25/04	Bfjb	24,7	26	5,3
25/04	Cptl	28,1	32	13,7
25/03	Iotl	71,2	86	20,9
25/03	Jejb	53,6	64	19,5
25/02	Gotl	46,2	47	1,7
25/02	Hejb	62,4	63	1,0
25/01	Grsl			
25/01	Hhib			
24/04	Dhfb	102,3	109	6,6
24/04	Crpl	35,3	36	2,1



Difference plot

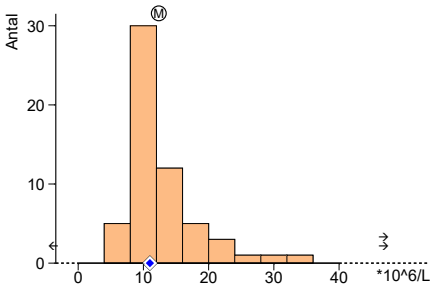


Metodesæt 1 ()

Csv- Leukocytter (mononukl.){antalk.} - NPU10763

Instrument: Sysmex XN
Principgruppe: Flowcytometri

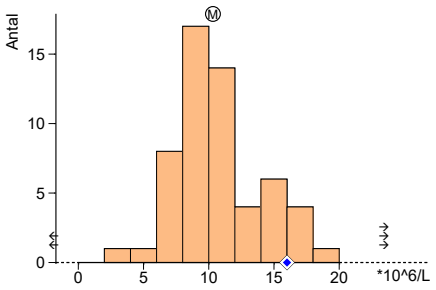
Gmlm ('Sample A')



Eget resultat: 11 *10^6/L (afv. -11,0%)
Middelværdi af alle (M): 12,36 *10^6/L
Acceptinterval (M ± 40%): 7,42 - 17,31 *10^6/L

	Middel	sd	CV%	SEM	N
Principgruppe	12,36	5,29	42,8	0,7	58
Alle	12,36	5,29	42,8	0,7	58

Hcbc ('Sample B')

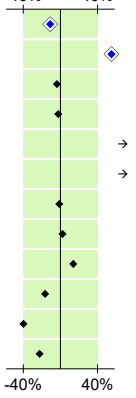


Eget resultat: 16 *10^6/L (afv. 55,0%)
Middelværdi af alle (M): 10,32 *10^6/L
Acceptinterval (M ± 40%): 6,19 - 14,45 *10^6/L

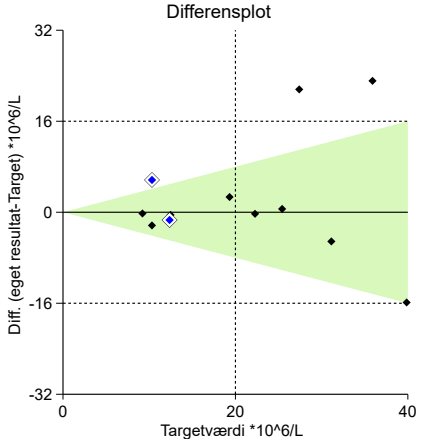
	Middel	sd	CV%	SEM	N
Principgruppe	10,32	3,29	31,9	0,4	56
Alle	10,32	3,29	31,9	0,4	56

Historik

Uds.	Materiale	Target	Eget	%dif
26/01	Gmlm	12,36	11	-11,0
26/01	Hcbc	10,32	16	55,0
25/04	Bfjb	12,47	12	-3,8
25/04	Cptl	9,22	9	-2,4
25/03	Iotl	35,90	59	64,3
25/03	Jejb	27,40	49	78,8
25/02	Gotl	22,27	22	-1,2
25/02	Hejb	25,42	26	2,3
25/01	Grsl	19,32	22	13,9
25/01	Hhib	31,13	26	-16,5
24/04	Dhfb	39,86	24	-39,8
24/04	Crpl	10,32	8	-22,5



Differensplot

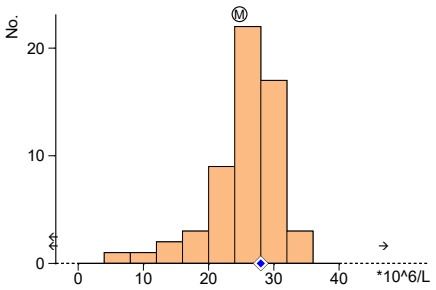


Metodesæt 2 ()

Csv- Leukocytter (polynukl.){antalk.} - NPU10774

Instrument: Sysmex XN
Principgruppe: Flowcytometri

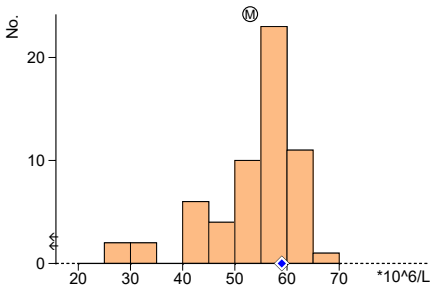
Gmlm ('Sample A')



Own result: 28 *10^6/L (dev. 13,2%)
Mean of all (M): 24,7 *10^6/L
Acceptance interval (M ± 40%): 14,84 - 34,64 *10^6/L

	Mean	sd	CV%	SEM	N
Principle group	24,7	5,41	21,9	0,7	58
All	24,7	5,41	21,9	0,7	58

Hcbc ('Sample B')

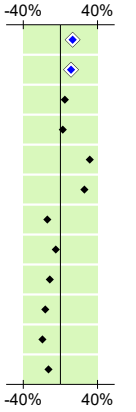


Own result: 59 *10^6/L (dev. 11,5%)
Mean of all (M): 52,9 *10^6/L
Acceptance interval (M ± 40%): 31,8 - 74,1 *10^6/L

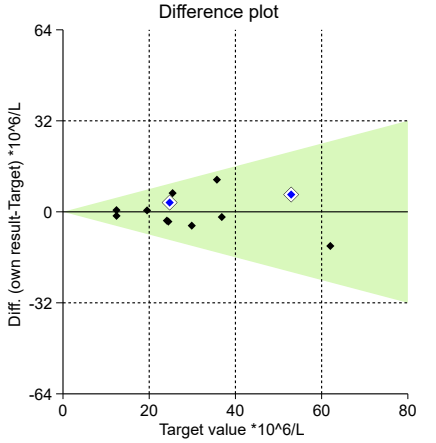
	Mean	sd	CV%	SEM	N
Principle group	52,9	9,05	17,1	1,2	59
All	52,9	9,05	17,1	1,2	59

History

Round	Material	Target	Own	%dif
26/01	Gmlm	24,74	28	13,2
26/01	Hcbc	52,93	59	11,5
25/04	Bfjb	12,41	13	4,8
25/04	Cptl	19,50	20	2,6
25/03	Iotl	35,70	47	31,6
25/03	Jejb	25,43	32	25,9
25/02	Gotl	24,44	21	-14,1
25/02	Hejb	36,84	35	-5,0
25/01	Grsl	12,42	11	-11,4
25/01	Hhib	29,87	25	-16,3
24/04	Dhfb	62,02	50	-19,4
24/04	Crpl	24,09	21	-12,8



Difference plot

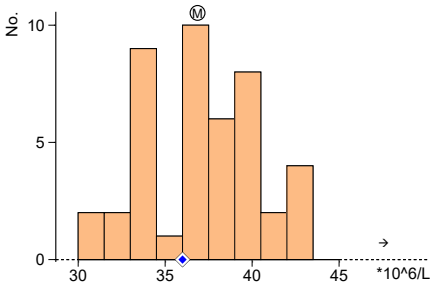


Metodesæt 1 ()

Csv- Leukocytter{antalk.} - NPU02594

Instrument: Sysmex XR-9000
Principgruppe: Flowcytometri

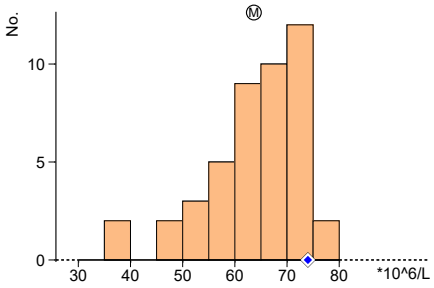
Gmlm ('Sample A')



Own result: 36 *10^6/L (dev. -2,3%)
Mean of all (M): 36,9 *10^6/L
Acceptance interval (M ± 40%): 22,1 - 51,6 *10^6/L

	Mean	sd	CV%	SEM	N
Principle group	36,9	3,27	8,9	0,5	44
All	36,9	3,27	8,9	0,5	44

Hcbc ('Sample B')

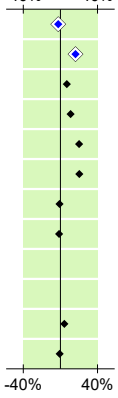


Own result: 74 *10^6/L (dev. 16,3%)
Mean of all (M): 63,6 *10^6/L
Acceptance interval (M ± 40%): 38,2 - 89,1 *10^6/L

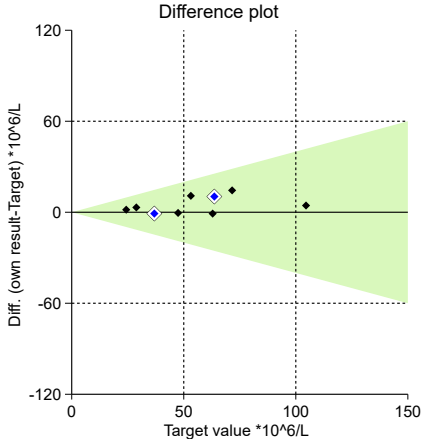
	Mean	sd	CV%	SEM	N
Principle group	63,6	9,31	14,6	1,4	45
All	63,6	9,31	14,6	1,4	45

History

Round	Material	Target	Own	%dif
26/01	Gmlm	36,9	36	-2,3
26/01	Hcbc	63,6	74	16,3
25/04	Bfjb	24,3	26	6,9
25/04	Cptl	28,8	32	11,0
25/03	Iotl	71,6	86	20,1
25/03	Jejb	53,2	64	20,4
25/02	Gotl	47,5	47	-1,0
25/02	Hejb	62,9	62	-1,4
25/01	Grsl			
25/01	Hhib			
24/04	Dhfb	104,6	109	4,2
24/04	Crpl	36,3	36	-0,8



Difference plot

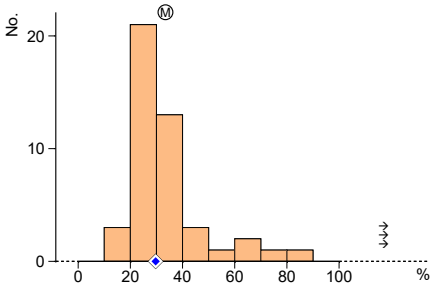


Metodesæt 2 ()

Lkcs(Csv)- Leukocytter (mononukl.){antalfr.} - NPU04227

Instrument: Sysmex XN
Principgruppe: Beregning

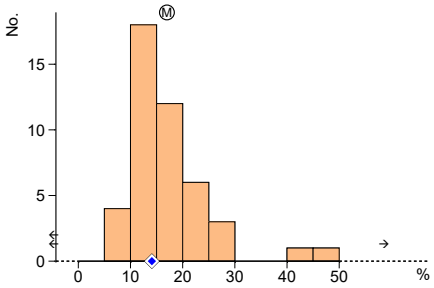
Gmlm ('Sample A')



Own result: 29,7 % (dev. -11,2%)
Mean of all (M): 33,5 %
Acceptance interval (M ± 40%): 20,1 - 46,8 %

	Mean	sd	CV%	SEM	N
Principle group	33,5	14,91	44,6	2,2	45
All	33,5	14,91	44,6	2,2	45

Hcbc ('Sample B')

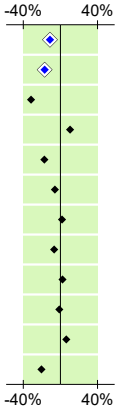


Own result: 14,1 % (dev. -17,0%)
Mean of all (M): 16,98 %
Acceptance interval (M ± 40%): 10,19 - 23,78 %

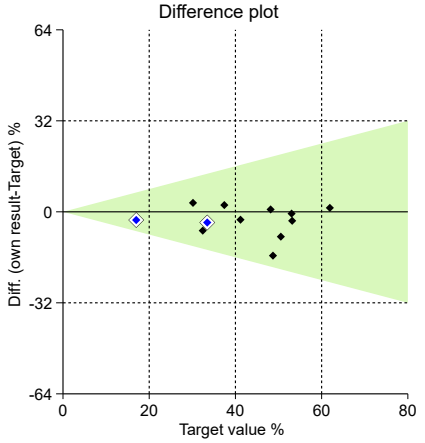
	Mean	sd	CV%	SEM	N
Principle group	16,98	7,44	43,8	1,1	45
All	16,98	7,44	43,8	1,1	45

History

Round	Material	Target	Own	%dif
26/01	Gmlm	33,46	29,7	-11,2
26/01	Hcbc	16,98	14,1	-17,0
25/04	Bfjb	48,71	33,3	-31,6
25/04	Cptl	30,16	33,3	10,4
25/03	Iotl	50,54	41,8	-17,3
25/03	Jejb	53,16	50,0	-5,9
25/02	Gotl	48,16	49,0	1,7
25/02	Hejb	41,18	38,4	-6,7
25/01	Grsl	61,91	63,3	2,3
25/01	Hhib	53,03	52,4	-1,2
24/04	Dhfb	37,42	39,8	6,4
24/04	Crpl	32,42	25,8	-20,4



Difference plot

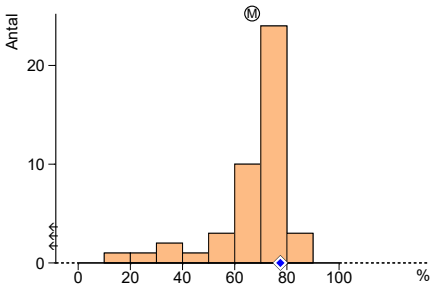


Metodesæt 1 ()

Lkcs(Csv)- Leukocytter (polynukl.){antalfr.} - NPU10213

Instrument: Sysmex XR-9000
Principgruppe: Beregning

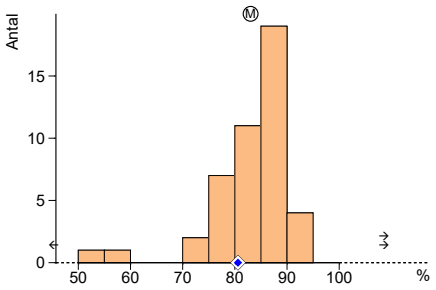
Gmlm ('Sample A')



Eget resultat: 77,5 % (afv. 16,2%)
Middelværdi af alle (M): 66,7 %
Acceptinterval (M ± 40%): 40,0 - 93,3 %

	Middel	sd	CV%	SEM	N
Principgruppe	66,7	14,91	22,4	2,2	45
Alle	66,7	14,91	22,4	2,2	45

Hcbc ('Sample B')

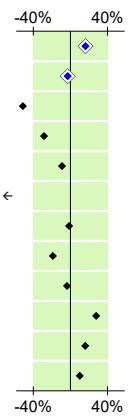
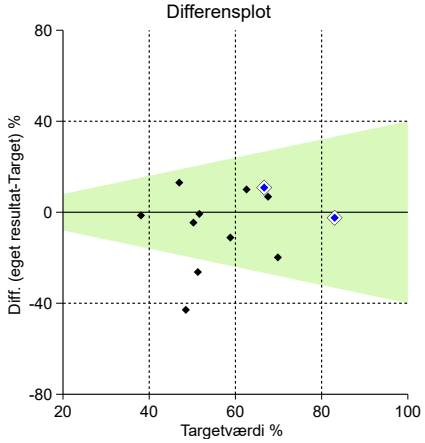


Eget resultat: 80,6 % (afv. -2,9%)
Middelværdi af alle (M): 83,0 %
Acceptinterval (M ± 40%): 49,8 - 116,2 %

	Middel	sd	CV%	SEM	N
Principgruppe	83,0	7,42	8,9	1,1	45
Alle	83,0	7,42	8,9	1,1	45

Historik

Uds.	Materiale	Target	Eget	%dif
26/01	Gmlm	66,7	77,5	16,2
26/01	Hcbc	83,0	80,6	-2,9
25/04	Bfjb	51,3	25	-51,3
25/04	Cptl	69,8	50	-28,4
25/03	Iotl	50,3	45,7	-9,1
25/03	Jejb	48,5	5,6	-88,5
25/02	Gotl	51,6	50,9	-1,4
25/02	Hejb	58,8	47,7	-18,9
25/01	Grsl	38,1	36,7	-3,6
25/01	Hhib	47,0	60	27,7
24/04	Dhfb	62,6	72,6	16,0
24/04	Crpl	67,6	74,4	10,1



Differensplot