

External Quality Assessment Scheme

ACTH, Adrenocorticotrophic hormone Round 1, 2022 (Pilot)

Pilot includes option for cortisol reporting

Specimens

Please find enclosed 2 lyophilized human serum samples S001 and S002, á 5 mL.

Caution

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

Examinations

ACTH
Cortisol

Storage and use

Lyophilized samples are stable at +2 ...8 °C until the closing date of the round.

Add 5.0 mL aqua to the sample at +15 ... +25 °C. Close the cap and allow to stand for 30 minutes before use. Ensure solubility and homogeneity by gently swirling the bottle. Avoid formation of foam. Do not shake. ACTH should be tested immediately after the 30 min reconstitution period. The reconstituted sample can be stored 7 days at +2 to +8 °C for cortisol measurement if kept capped in the original container and free of contamination or 4 weeks frozen once at -20 °C.

Analyze both samples as patient samples.

Result reporting

Please enter the results and methods via LabScala (www.labscale.com). If you cannot find your instrument or reagent from the registry, please contact the EQA coordinator.

S001



S002



2022-06-27

INSTRUCTIONS

Product no. 2704
LQ741322011-012/UK

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

The results should be reported no later than **August 9, 2022.**

Inquiries

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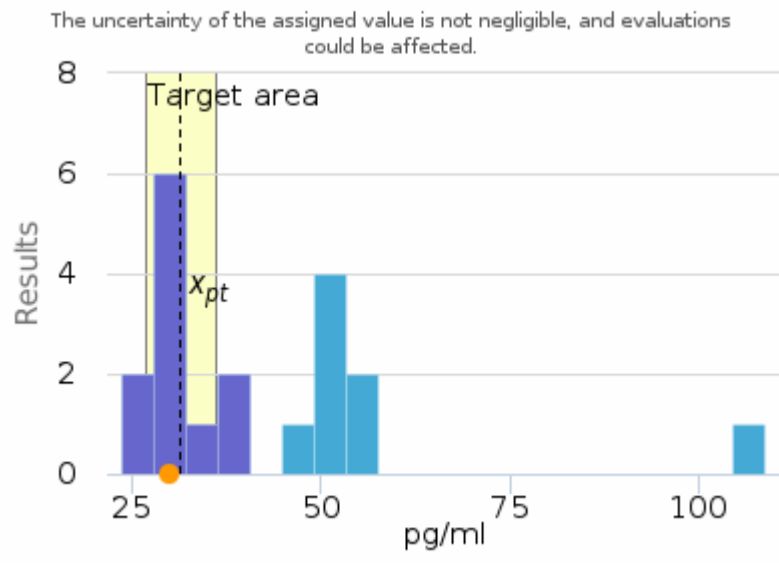
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www.labquality.fi



ACTH | Cobas

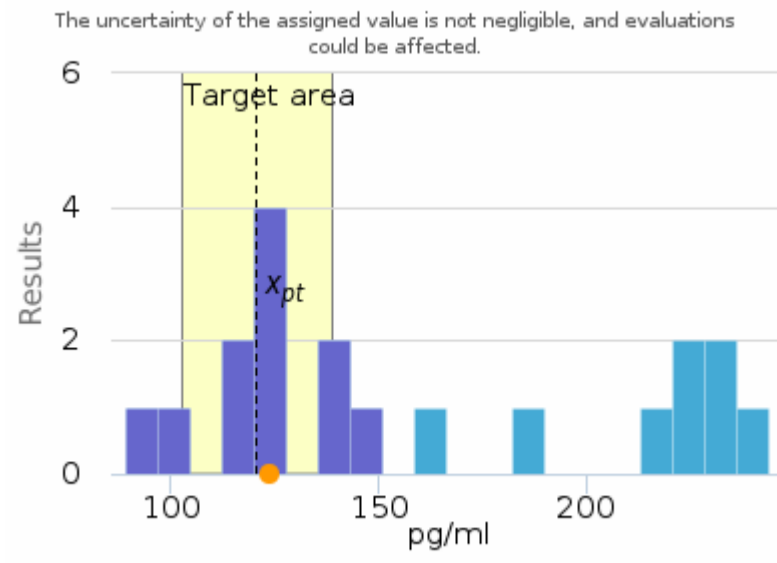
S001, ACTH



■ All method groups
■ Roche Cobas/Elecsys ACTH
● Own result: 30.02 (07.07.2022)
 Diff%: -4.68 | x_{pt} : 31.49
 Target area: 26.77-36.21 | Target: $\pm 15\%$

	x_{pt}	sd	SEM	CV%	n
Roche Cobas/Elecsys ACTH	31.49 pg/ml	4.35	1.31	13.8	11
All methods	39.76 pg/ml	11.33	2.67	28.5	19

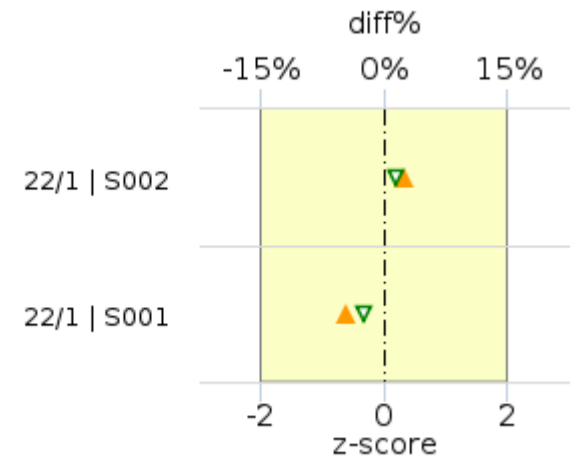
S002, ACTH



■ All method groups
■ Roche Cobas/Elecsys ACTH
● Own result: 123.52 (07.07.2022)
 Diff%: 2.37 | x_{pt} : 120.66
 Target area: 102.56-138.76 | Target: $\pm 15\%$

	x_{pt}	sd	SEM	CV%	n
Roche Cobas/Elecsys ACTH	120.66 pg/ml	15.81	4.77	13.1	11
All methods	160.53 pg/ml	52.58	12.06	32.8	19

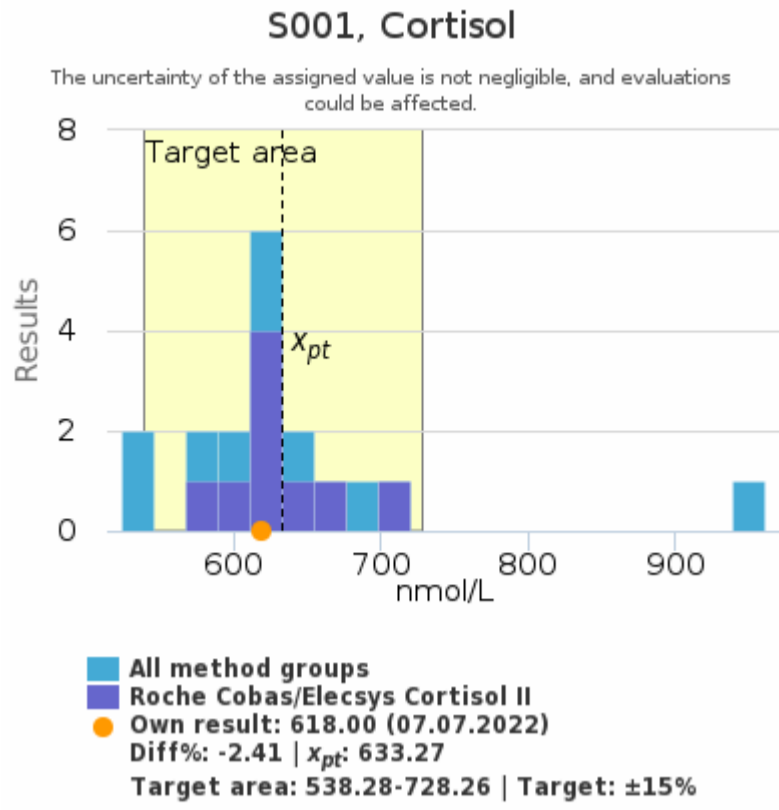
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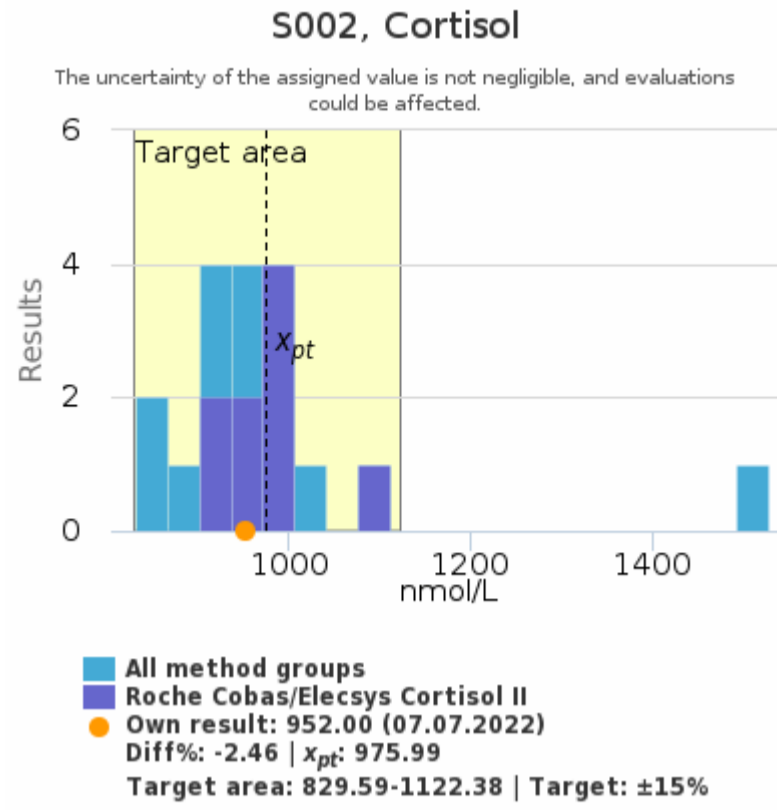
▲ diff%
▼ Z-score is uncertain due to the small number of observations

Round	Sample	x_{pt}	Result	diff%	z-score
22/1	S002	120.66	123.52	2.37%	0.18
22/1	S001	31.49	30.02	-4.68%	-0.34

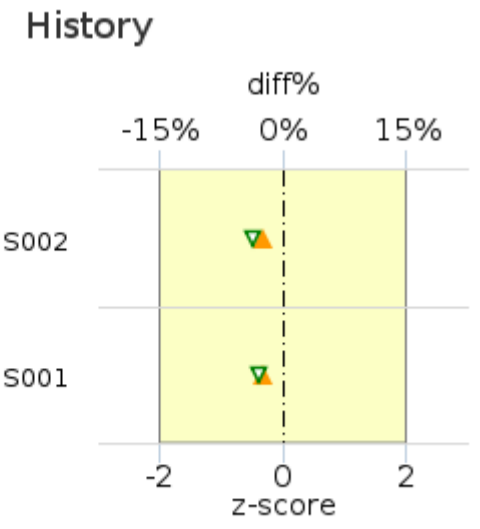
Cortisol | Cobas



	x_{pt}	sd	SEM	CV%	n
Roche Cobas/Elecsys Cortisol II	633.27 nmol/L	39.16	13.05	6.2	9
All methods	616.70 nmol/L	48.47	11.76	7.9	18



	x_{pt}	sd	SEM	CV%	n
Roche Cobas/Elecsys Cortisol II	975.99 nmol/L	50.05	16.68	5.1	9
All methods	947.01 nmol/L	64.01	15.53	6.8	18



▲ diff%
 ▼ Z-score is uncertain due to the small number of observations

Round	Sample	x_{pt}	Result	diff%	z-score
22/1	S002	975.99	952.00	-2.46%	-0.48
22/1	S001	633.27	618.00	-2.41%	-0.39

Report info**Participants**

22 participants from 12 countries.

Report info

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

Assigned values (\bar{x}_p , target values) are means of the results where results deviating more than ± 3 standard deviation from the median are removed. The standard uncertainty (u) of

the assigned value is reported as standard error of the mean (SEM). Additionally, if the measurement uncertainty of the target value is large an automatic text is printed on the report: "The uncertainty of the assigned value is not negligible, and evaluations could be affected."

In case the client's result is the only one in the method group, no assigned value will be calculated, no target area shown, and no statistics calculated. In case there are only a few results in the client's own method group, the result can be compared to all method mean or to a group that is similar to the own method.

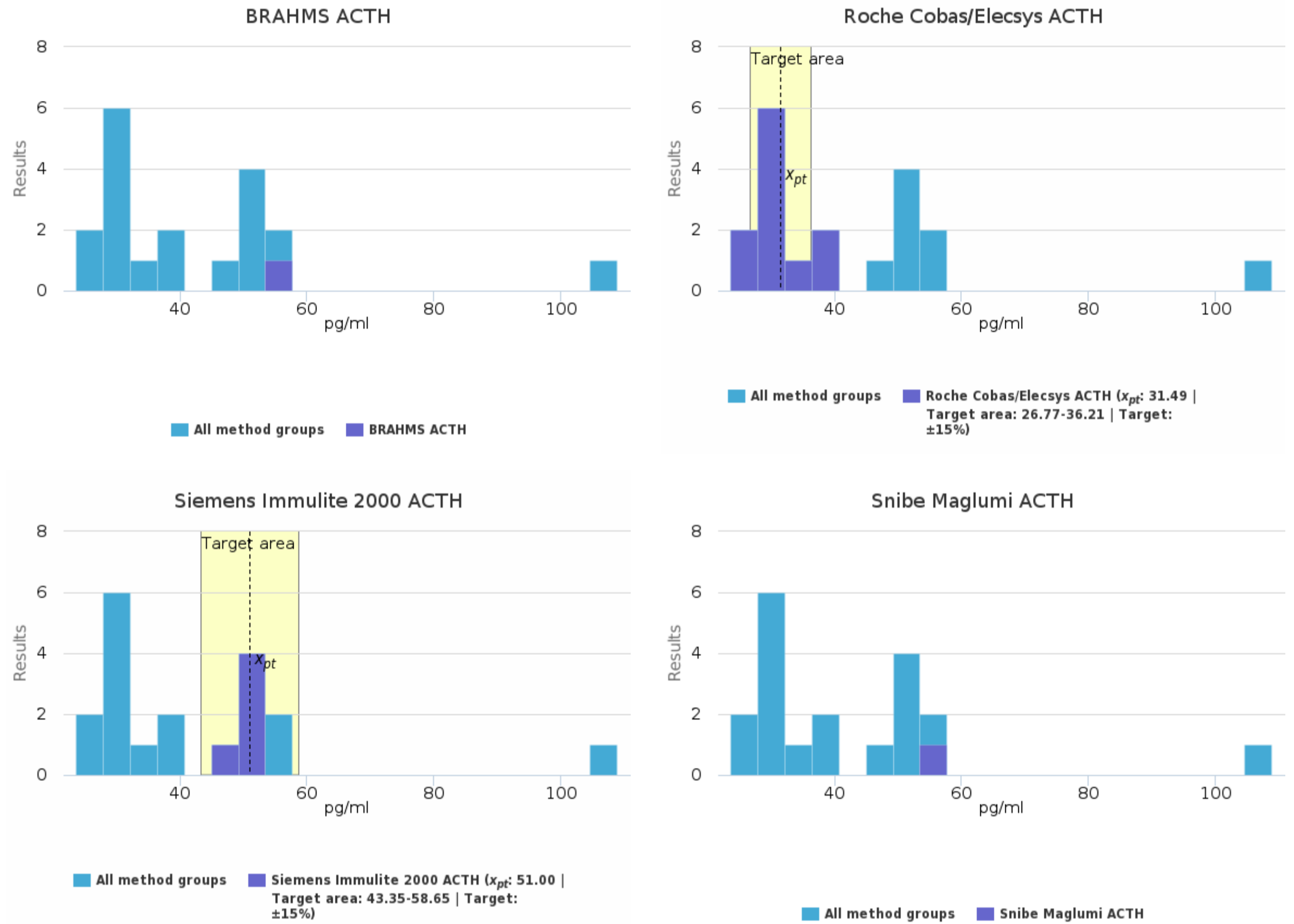
Results reported with $<$ or $>$ -signs cannot be included in the statistics.

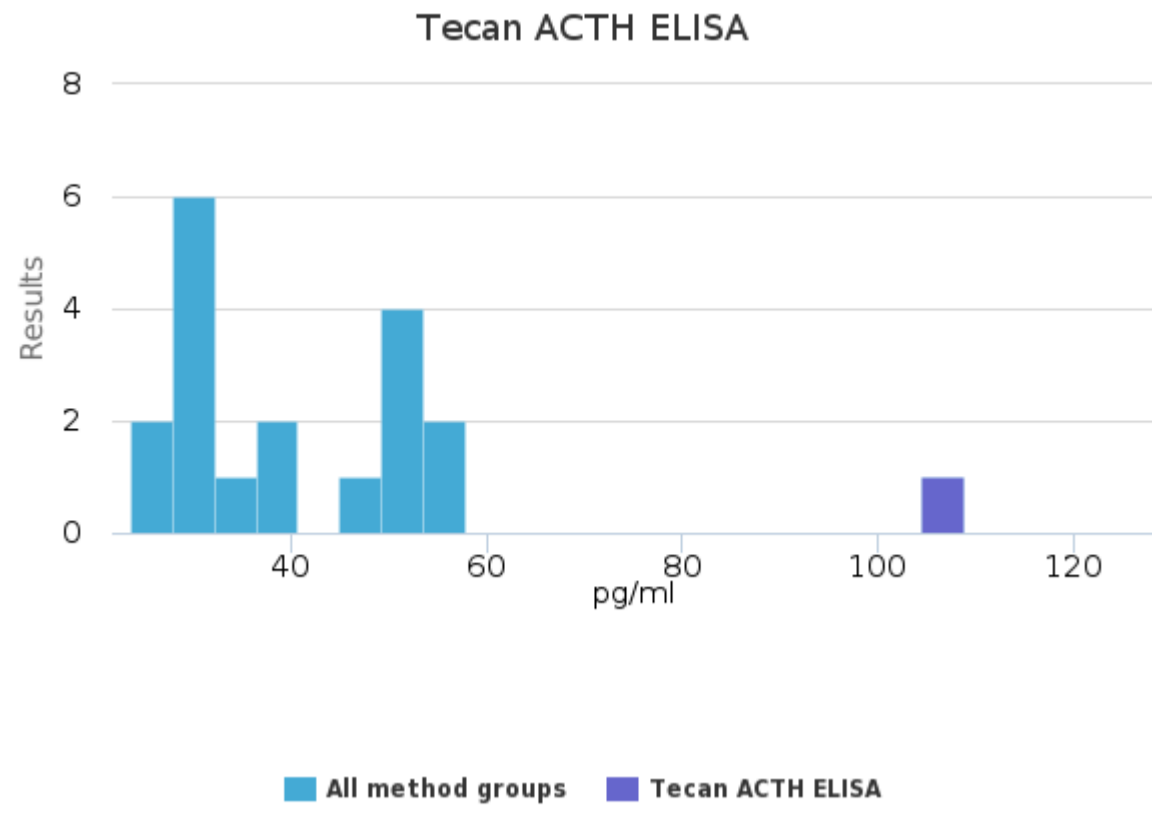
For information on report interpretation and performance evaluation, please see the "EOAS Interpretation guidelines" LabScala User instructions (top right corner ?Help link).

S001 | ACTH, pg/ml

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
BRAHMS ACTH	-	-	-	-	-	57.00	57.00	-	1
Roche Cobas/Elecsys ACTH	31.49	31.79	4.35	13.8	1.31	23.70	39.05	-	11
Siemens Immulite 2000 ACTH	51.00	51.70	1.45	2.8	0.65	48.50	51.90	-	5
Snibe Maglumi ACTH	-	-	-	-	-	57.22	57.22	-	1
Tecan ACTH ELISA	-	-	-	-	-	108.80	108.80	-	1
All	39.76	35.24	11.33	28.5	2.67	23.70	57.22	1	19

S001 | ACTH, pg/ml | histogram summaries in LabScala

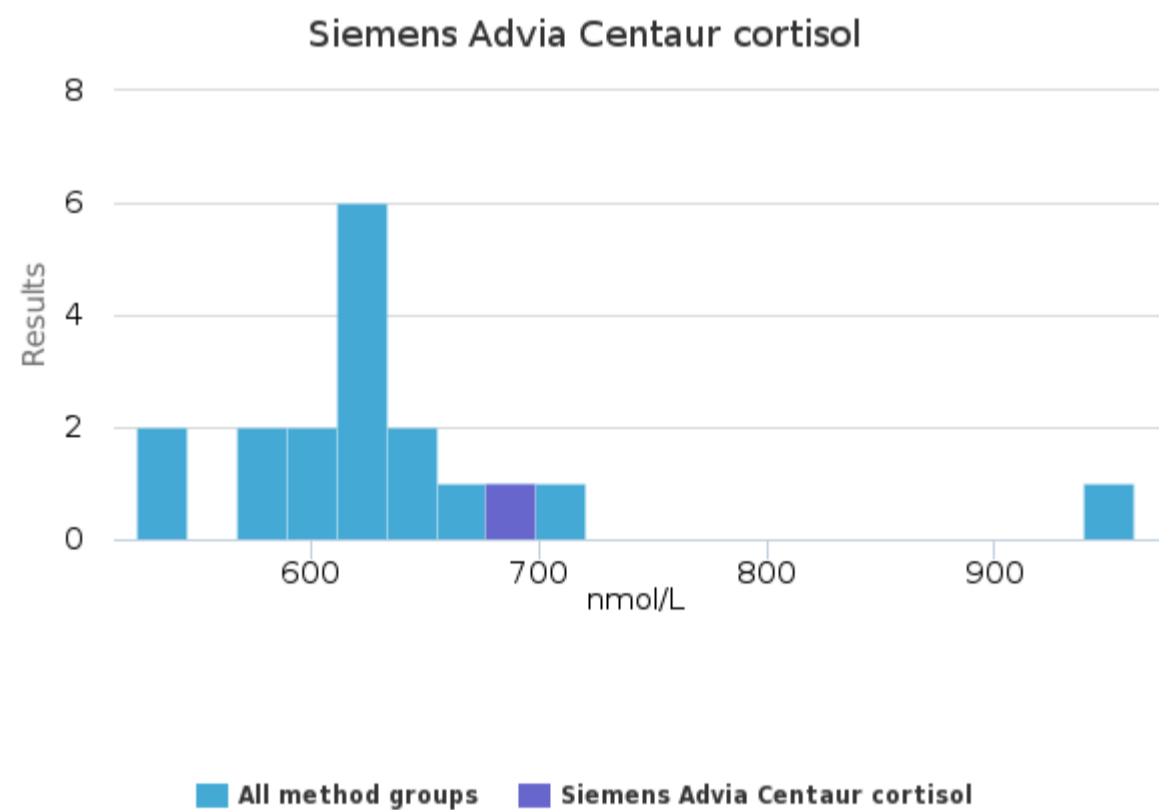
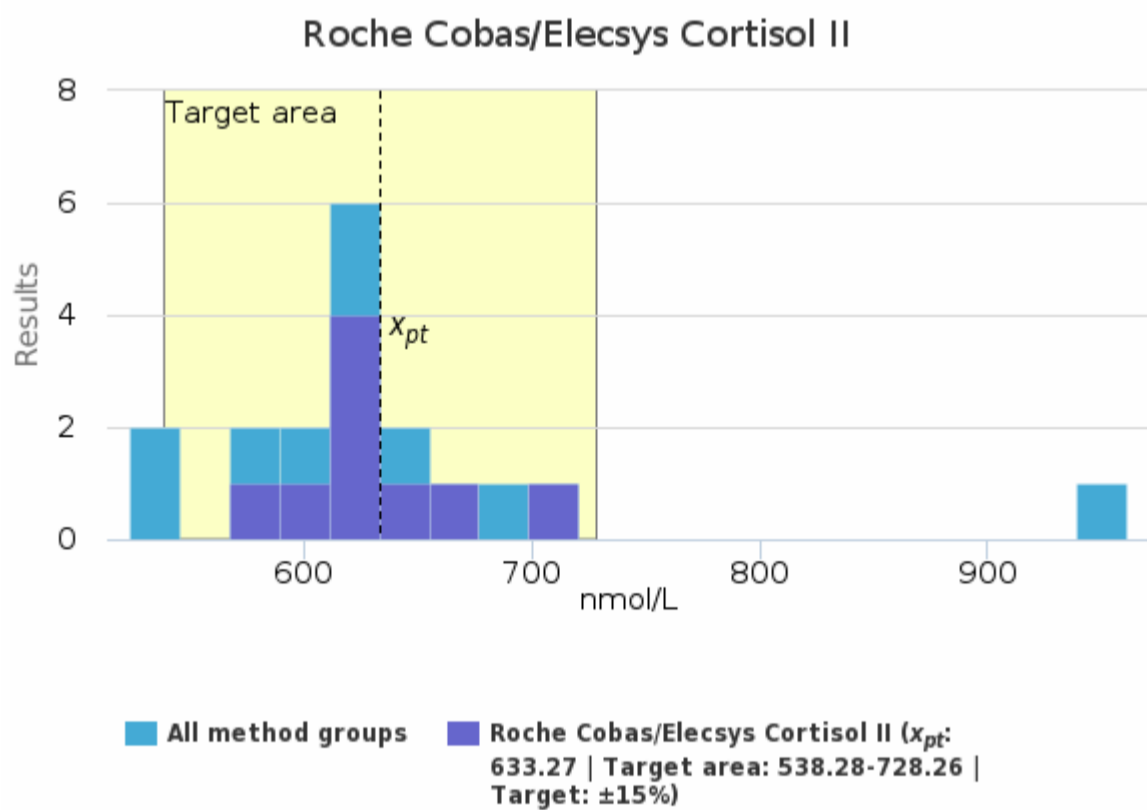
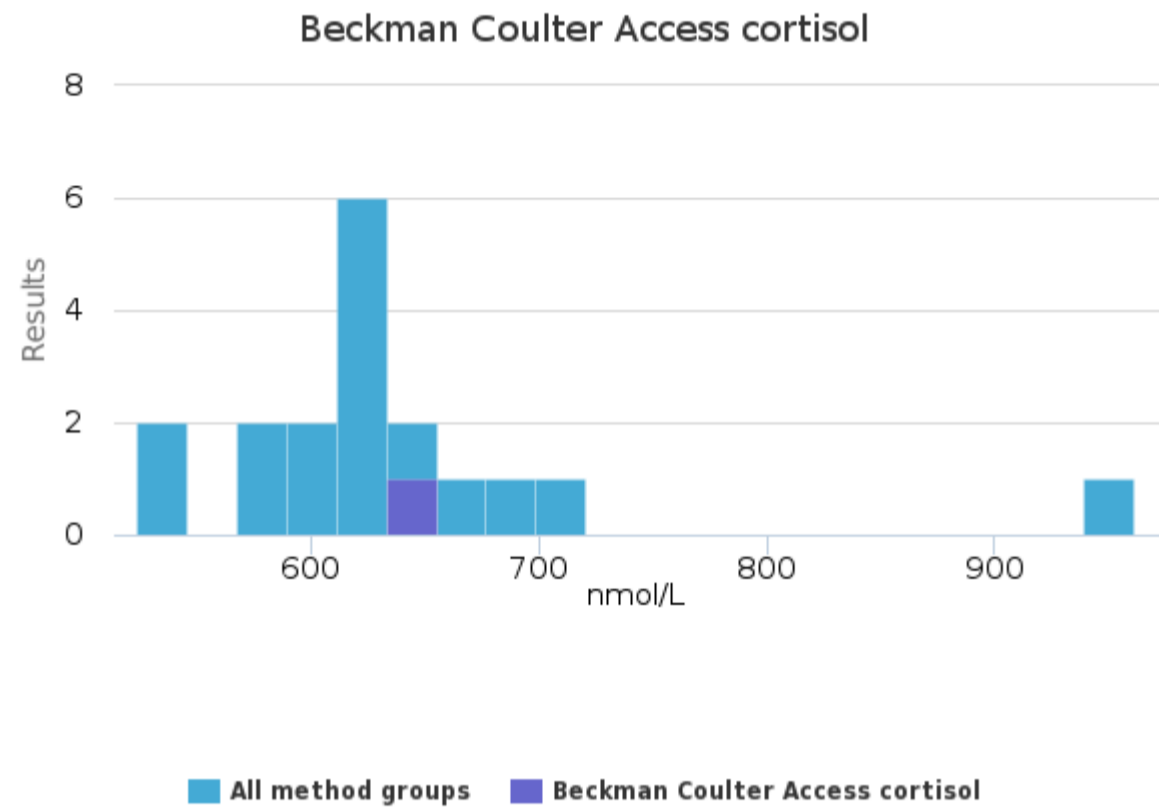
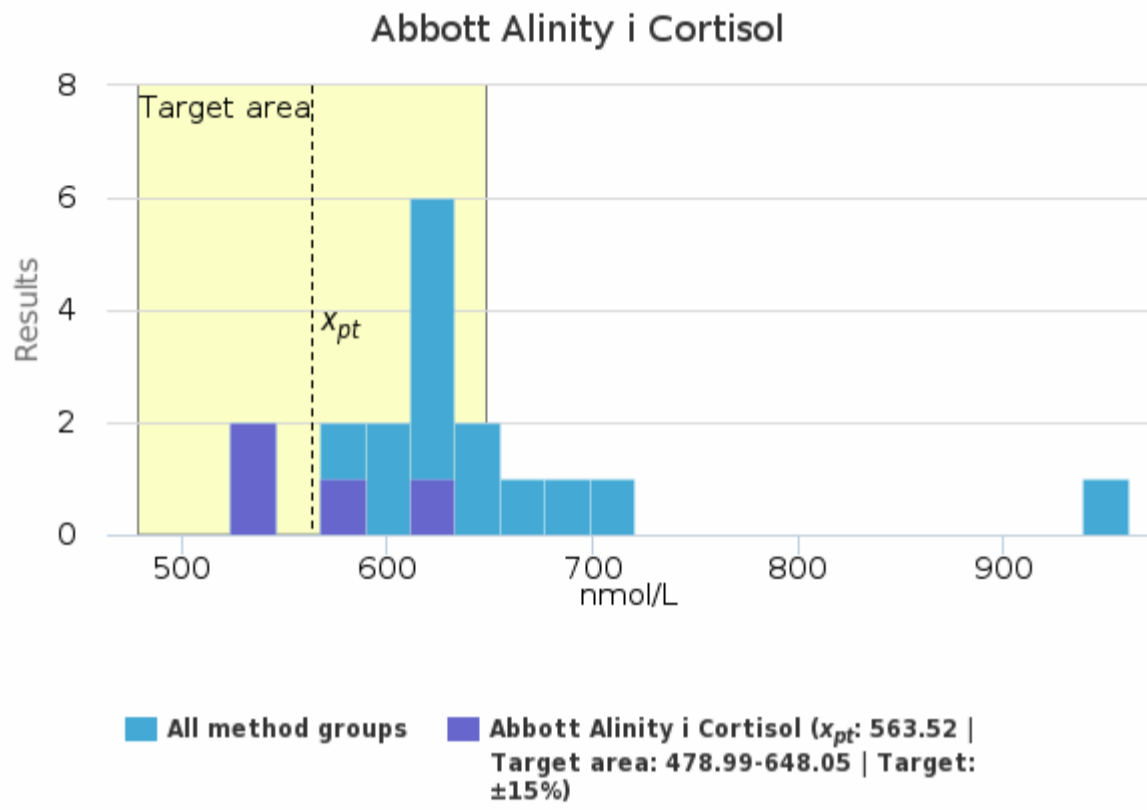


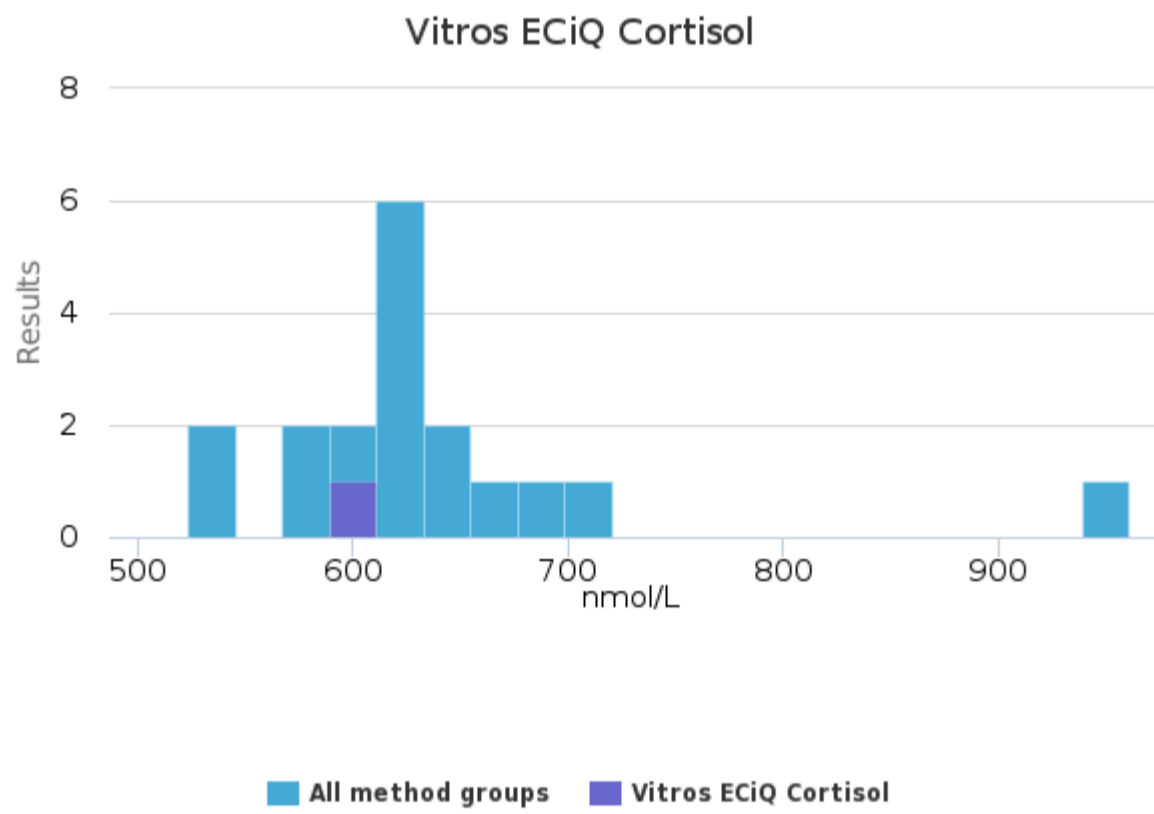
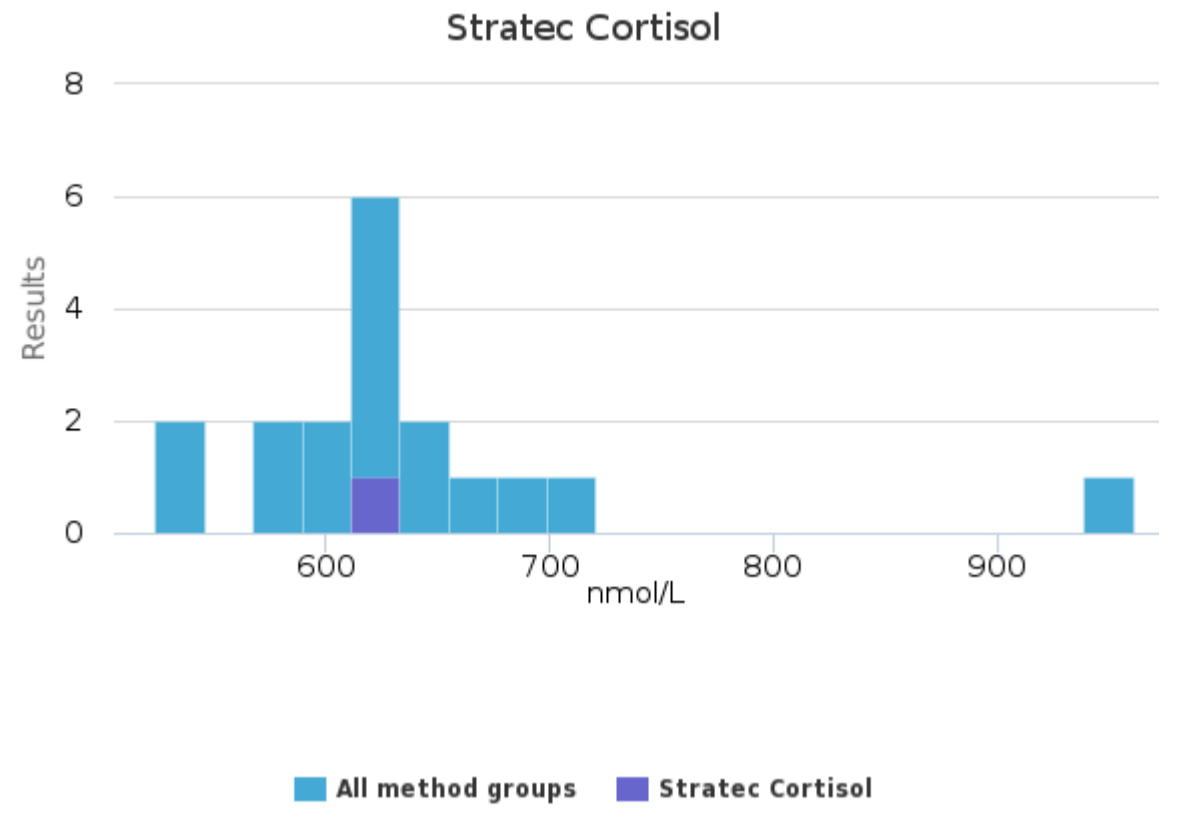
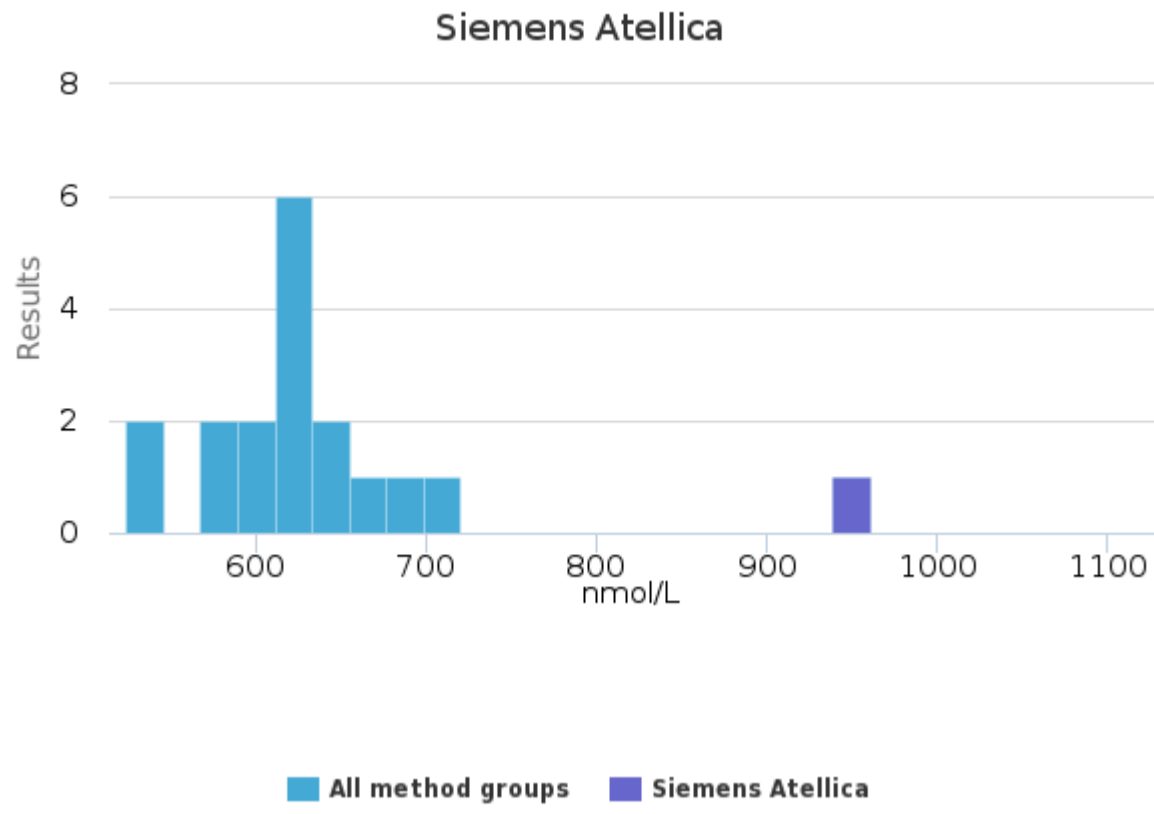


S001 | Cortisol, nmol/L

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity i Cortisol	563.52	554.69	43.64	7.7	21.82	524.00	620.69	-	4
Beckman Coulter Access cortisol	-	-	-	-	-	643.00	643.00	-	1
Roche Cobas/Elecsys Cortisol II	633.27	627.00	39.16	6.2	13.05	581.79	720.00	-	9
Siemens Advia Centaur cortisol	-	-	-	-	-	683.50	683.50	-	1
Siemens Atellica	-	-	-	-	-	960.82	960.82	-	1
Stratec Cortisol	-	-	-	-	-	612.99	612.99	-	1
Vitros ECIQ Cortisol	-	-	-	-	-	591.00	591.00	-	1
All	616.70	620.69	48.47	7.9	11.76	524.00	720.00	1	18

S001 | Cortisol, nmol/L | histogram summaries in LabScala

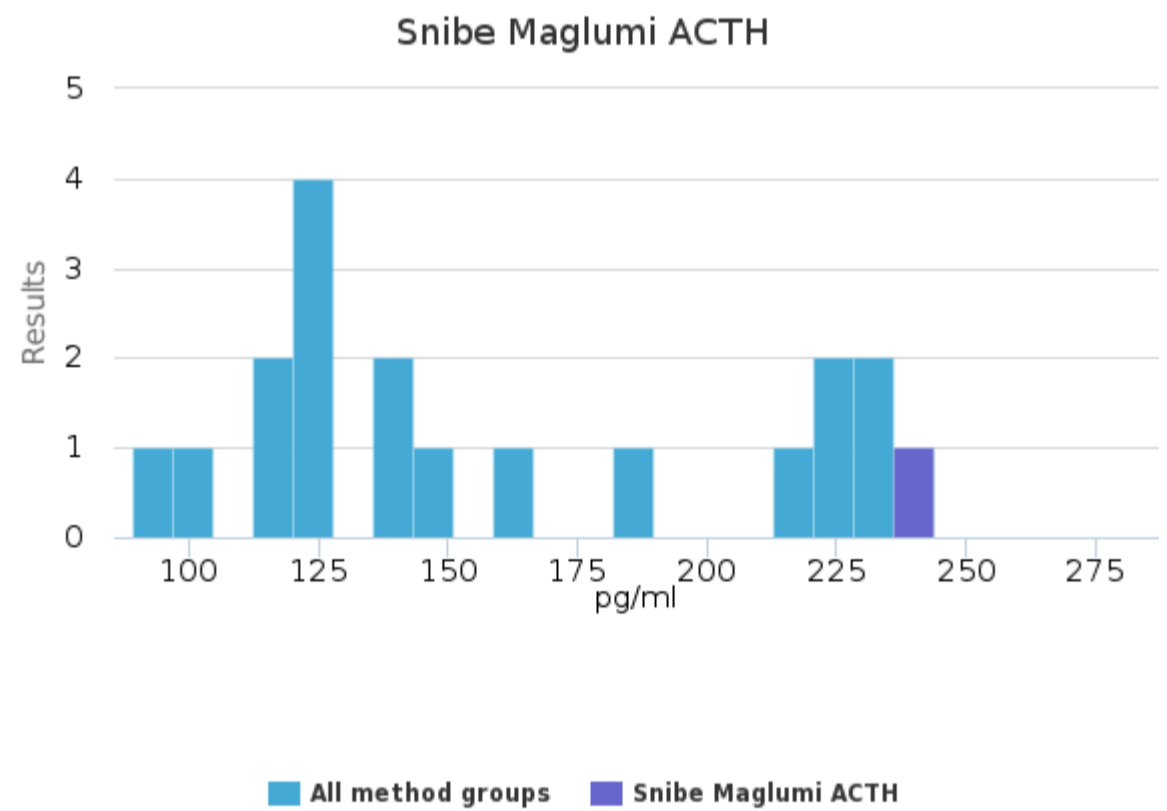
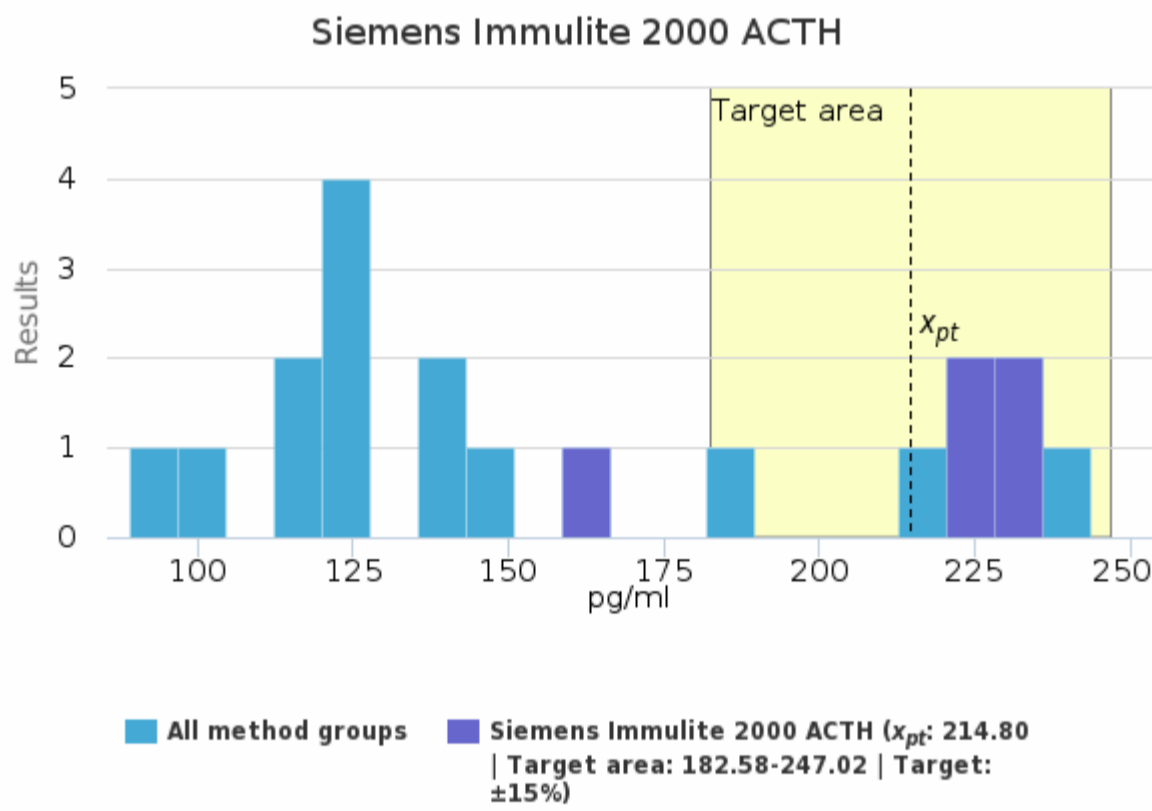
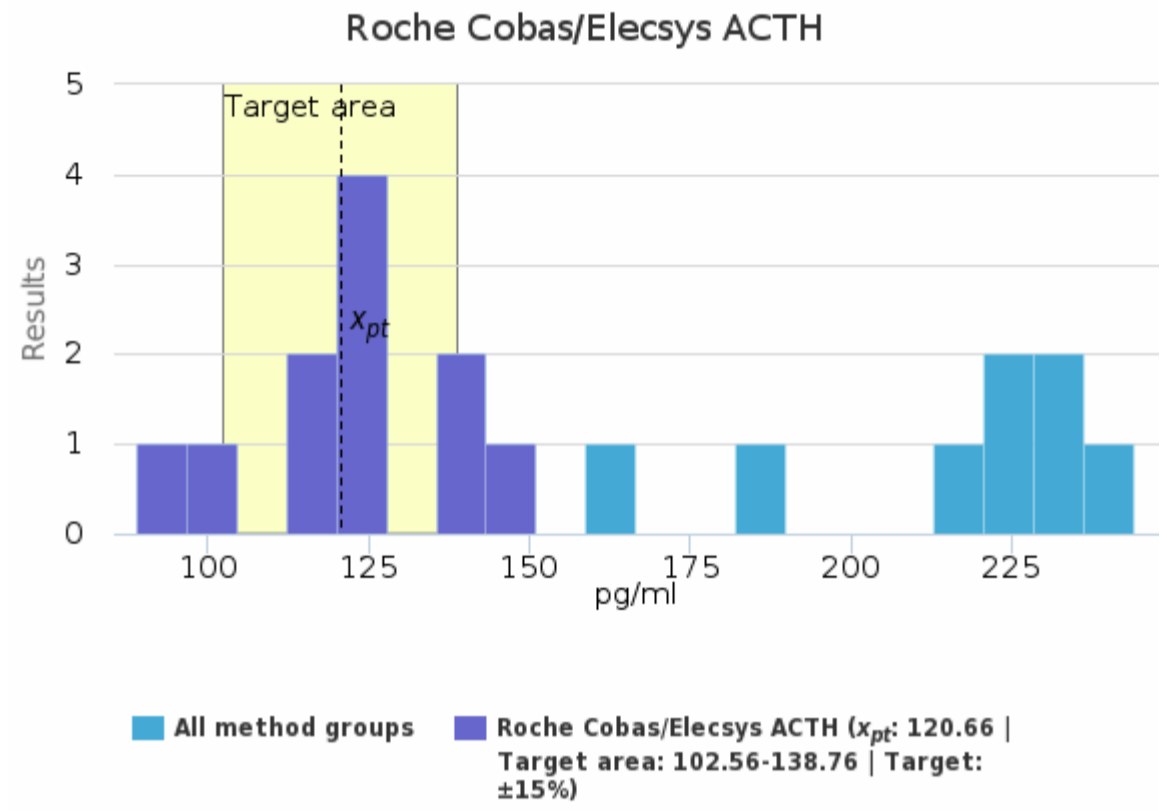
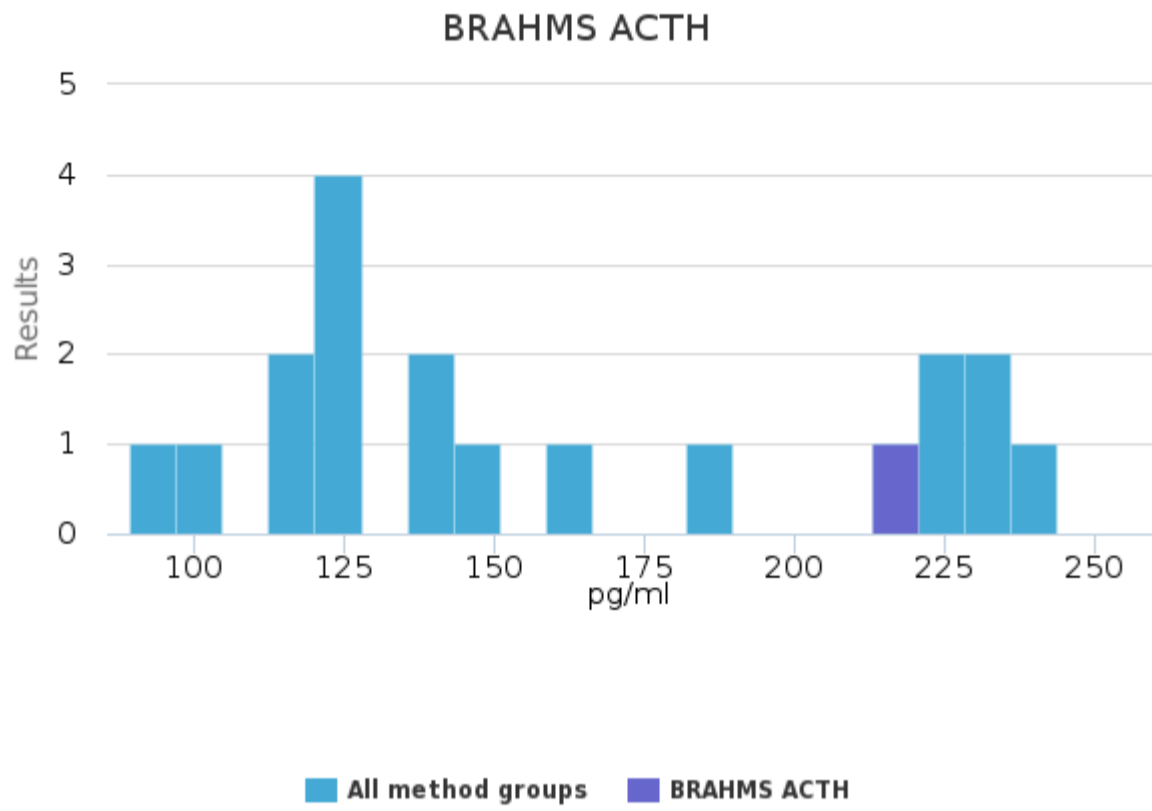


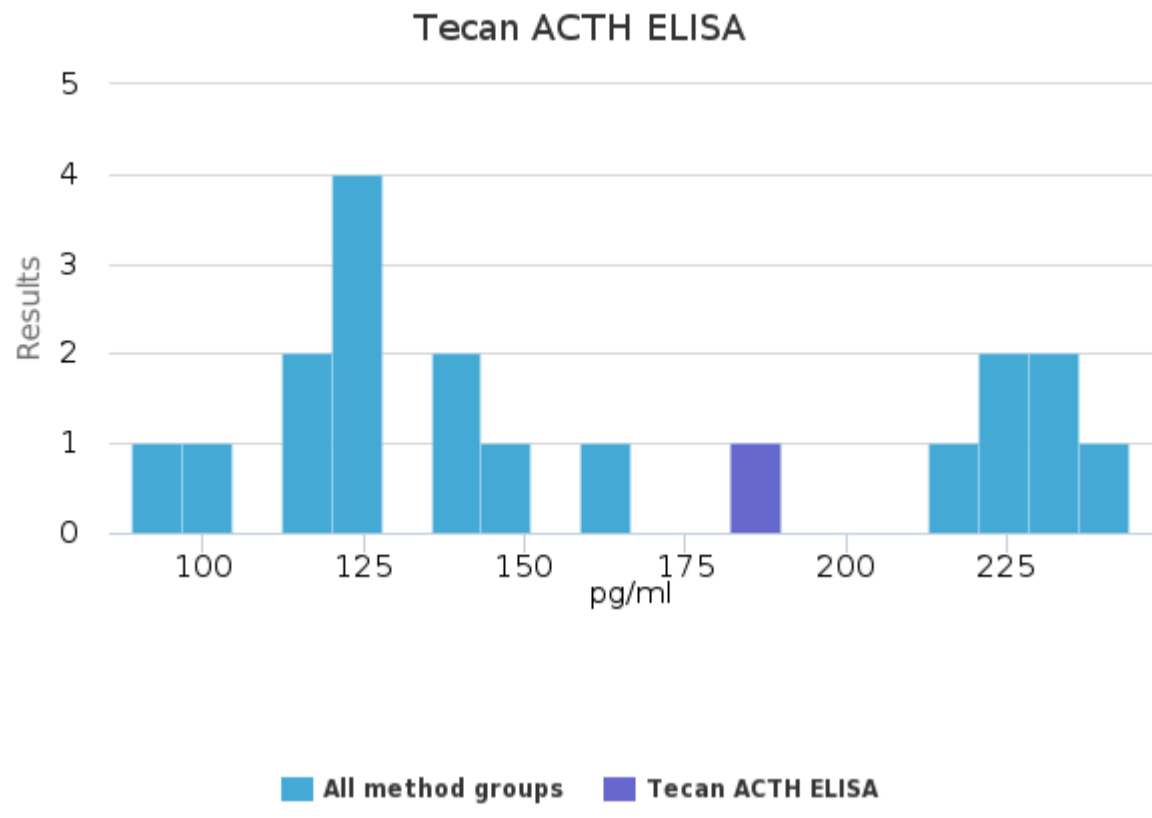


S002 | ACTH, pg/ml

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
BRAHMS ACTH	-	-	-	-	-	220.00	220.00	-	1
Roche Cobas/Elecsys ACTH	120.66	121.93	15.81	13.1	4.77	89.20	144.86	-	11
Siemens Immulite 2000 ACTH	214.80	228.00	31.48	14.7	14.08	159.00	235.00	-	5
Snibe Maglumi ACTH	-	-	-	-	-	243.85	243.85	-	1
Tecan ACTH ELISA	-	-	-	-	-	185.00	185.00	-	1
All	160.53	136.23	52.58	32.8	12.06	89.20	243.85	-	19

S002 | ACTH, pg/ml | histogram summaries in LabScala

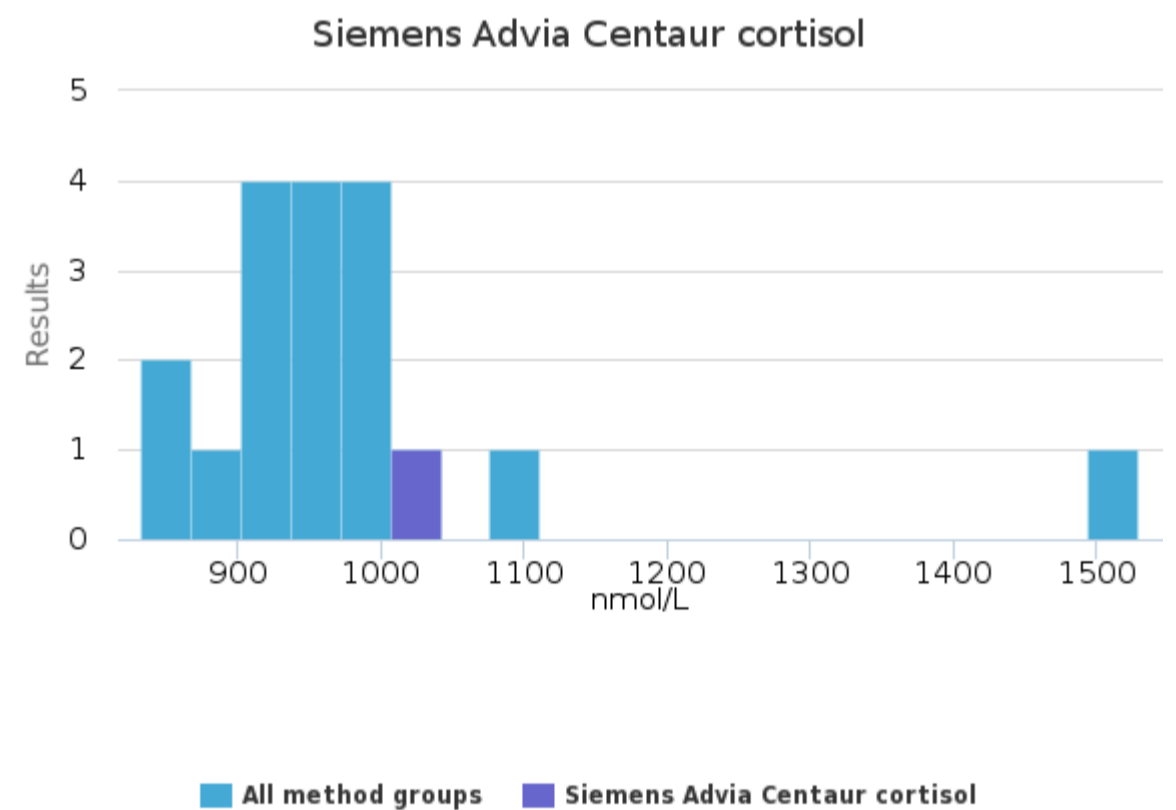
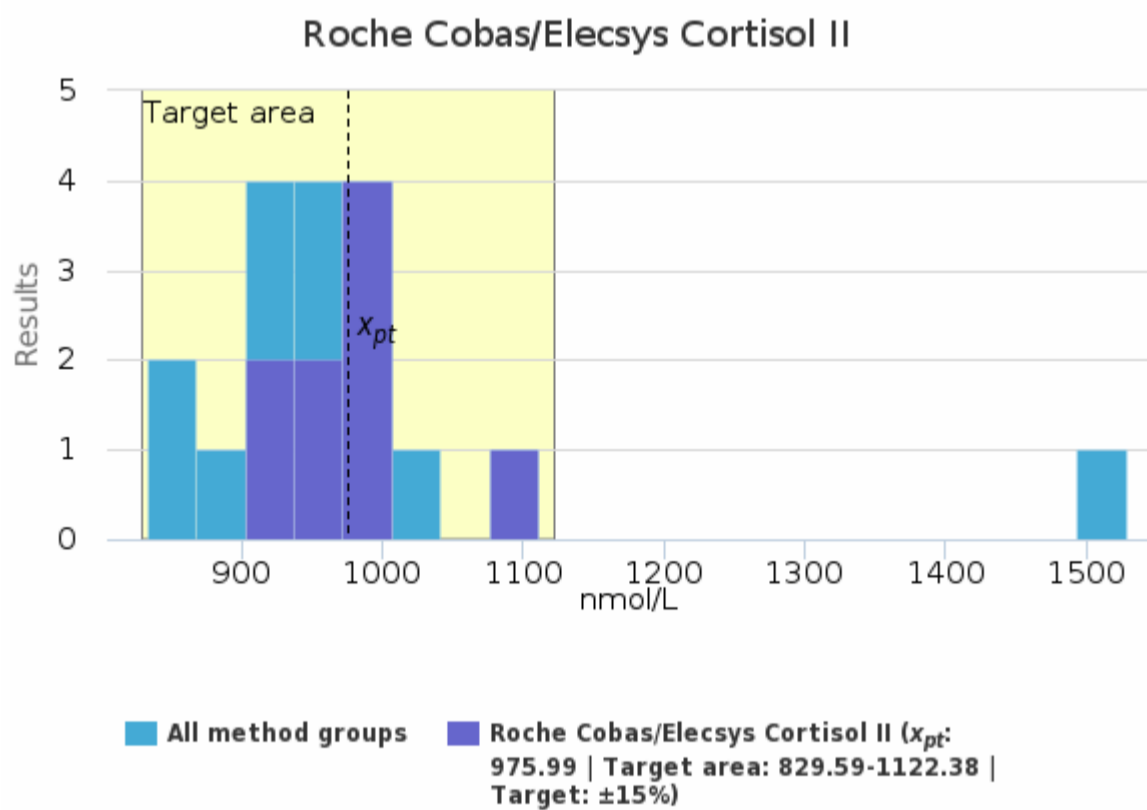
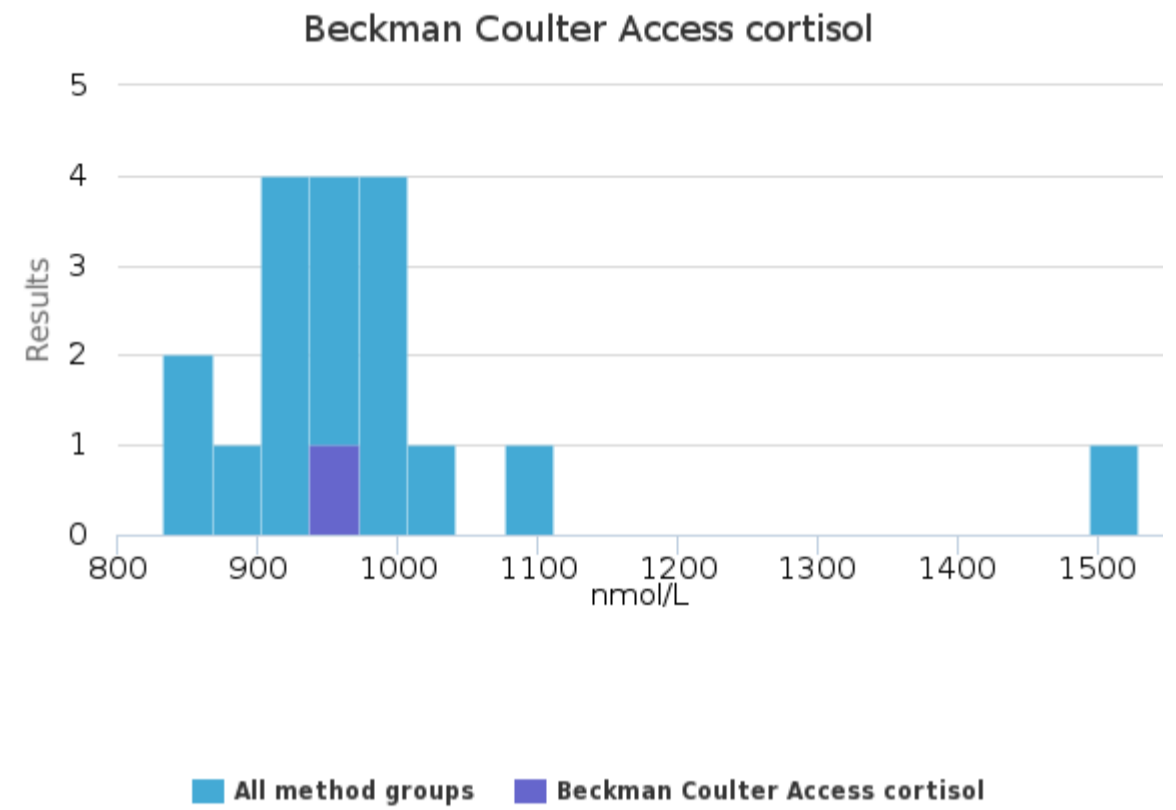
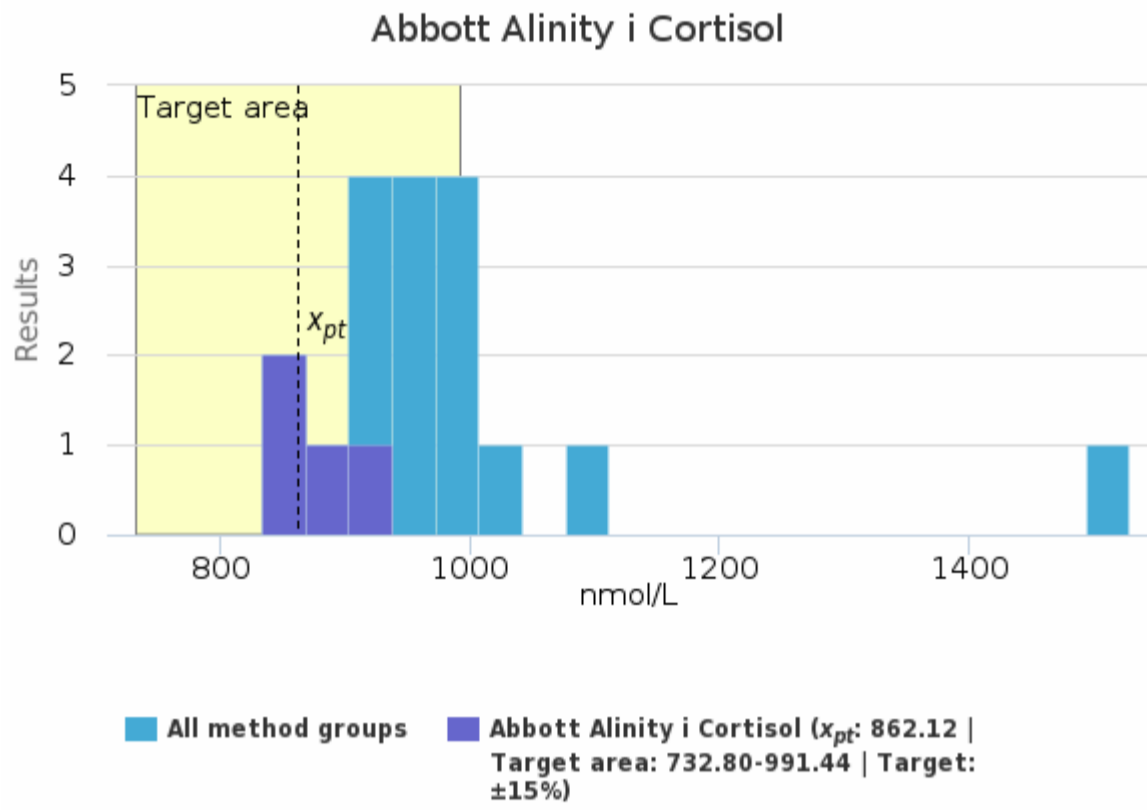


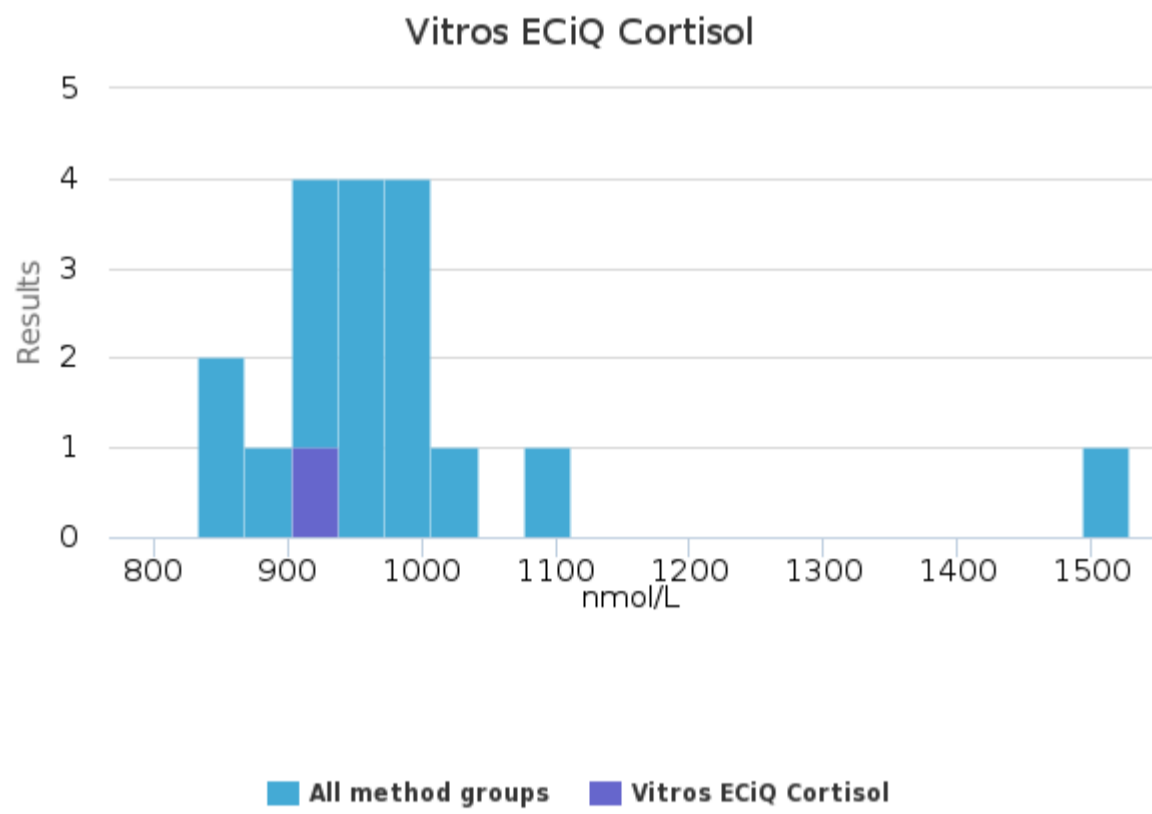
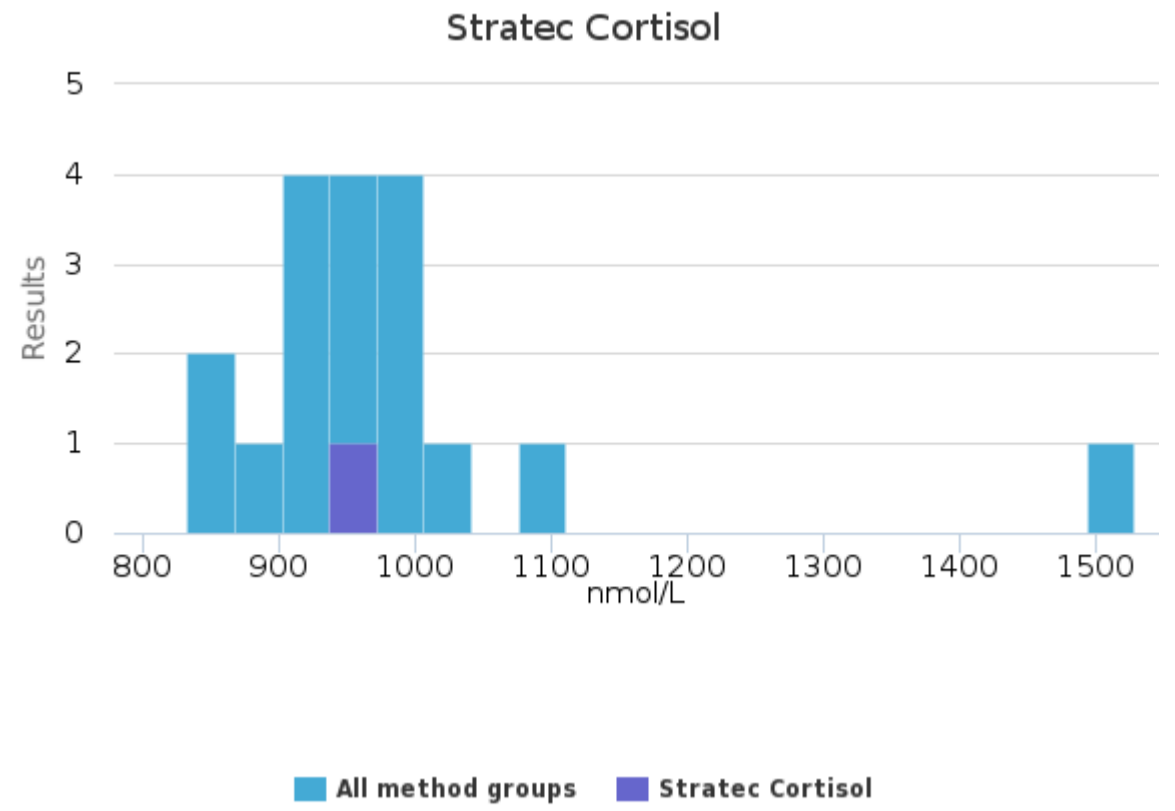
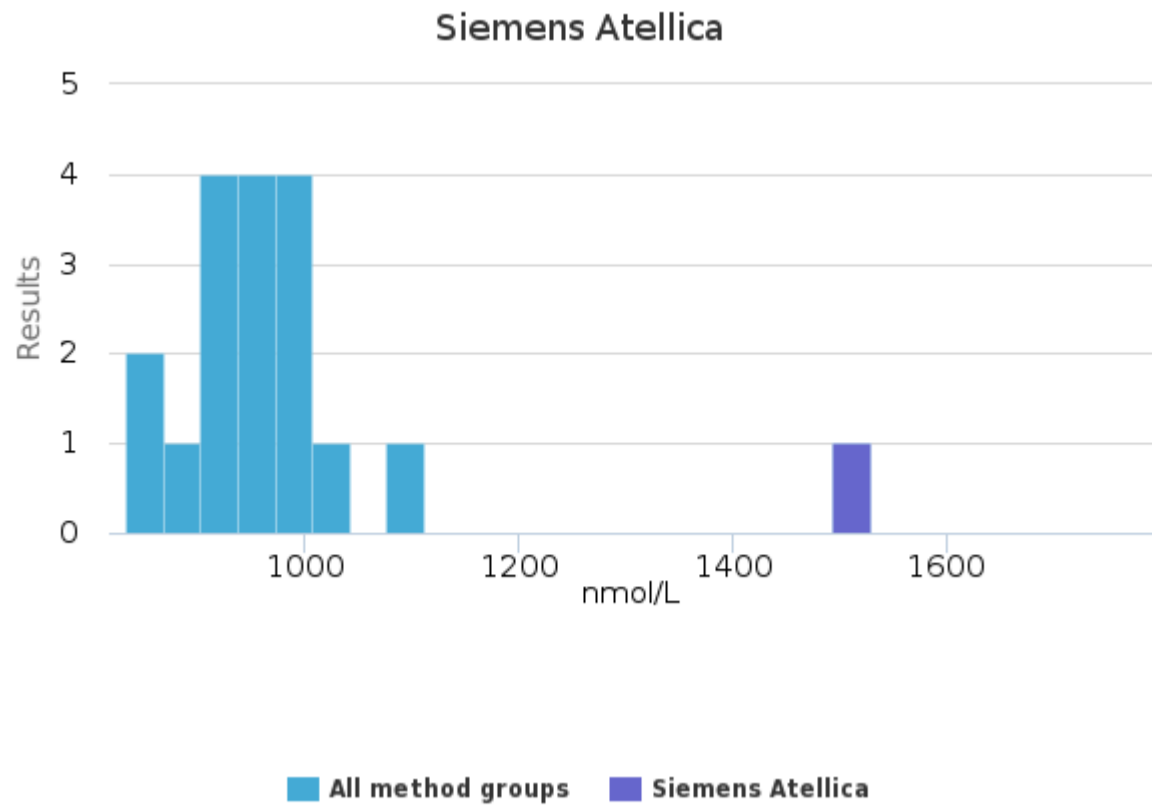


S002 | Cortisol, nmol/L

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity i Cortisol	862.12	855.18	32.30	3.7	16.15	833.30	904.82	-	4
Beckman Coulter Access cortisol	-	-	-	-	-	971.00	971.00	-	1
Roche Cobas/Elecsys Cortisol II	975.99	988.41	50.05	5.1	16.68	908.00	1080.00	-	9
Siemens Advia Centaur cortisol	-	-	-	-	-	1019.00	1019.00	-	1
Siemens Atellica	-	-	-	-	-	1528.54	1528.54	-	1
Stratec Cortisol	-	-	-	-	-	945.82	945.82	-	1
Vitros ECIQ Cortisol	-	-	-	-	-	931.00	931.00	-	1
All	947.01	952.00	64.01	6.8	15.53	833.30	1080.00	1	18

S002 | Cortisol, nmol/L | histogram summaries in LabScala





Report info**Participants**

22 participants from 12 countries.

Report info

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

Assigned values (\bar{x}_p , target values) are means of the results where results deviating more than ± 3 standard deviation from the median are removed. The standard uncertainty (u) of

the assigned value is reported as standard error of the mean (SEM). Additionally, if the measurement uncertainty of the target value is large an automatic text is printed on the report: "The uncertainty of the assigned value is not negligible, and evaluations could be affected."

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

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

External Quality Assessment Scheme

ACTH, Adrenocorticotrophic hormone Round 1, 2022 (Pilot)

Pilot includes option for cortisol reporting

Thank you for participating in the pilot round. Next year there will be two rounds and the new scheme is 2740 ACTH and Cortisol. Please remember to register.

Specimens

Sample S001 (LQ741322011) and sample S002 (LQ741322012) were lyophilized human serum samples.

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

The materials were sent without temperature control packaging.

Report info

Please see the description of the data analysis on the last page of the laboratory-specific histogram and Numerical Summary reports. It is important to read the Final report first, because it contains important information of the samples and results in each round.

Comments – EQA Coordinator

ACTH

ACTH level of sample S001 was at the upper level of normal range except for the result (N=1) in the TECAN ACTH ELISA method group. This result is 2-fold compared to other results. While N=1 in the group, no further conclusions can be made if the method differs from other methods. Roche cobas method group (N=10) level is much lower than other results. ACTH level in the sample S002 is elevated. The results of Roche cobas method group are again the lowest while Snibe Maglumi results are the highest. According to the sample manufacturer, the result level on Roche is lower than the level of other methods.

Cortisol

Cortisol level of sample S001 was at the upper level of the normal range of adults >16 years. In the sample S002 the level was elevated. The result levels in the method groups in both samples are quite uniform except Siemens Atellica (N=1) which is at a higher level. According to the sample manufacturer, the result level of Siemens Atellica is higher than the level of other methods, but the results of the round are even higher than that. While N=1 in the group, no further conclusions can be made about the deviation of the result level.

The round went very well. Fourteen out of eighteen (14/18) of the clients had all results within target limits. However, the target range could only be given for fifteen ACTH results and twelve cortisol results where N of the results ≥ 2 .

End of report

2022-08-12

FINAL REPORT

Product no. 2704

Samples sent	2022-06-27
Round closed	2022-08-09
Final report	2022-08-12

Request for correction

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

Authorized by

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