LABQUALITY

External Quality Assessment Scheme

Proteins in cerebrospinal fluid, Round 1, 2023

Specimens
Please find enclosed 1 sample of spinal fluid S001, 3.0 mL and 1 serum sample S002, 1 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
Sample S001:
CSF-Prot
CSF-Alb
CSF-IgG

Sample S002:
S-Alb
S-IgG

Calculated results:
CSF-IgG-Ind
CSF-Alb/S-Alb

Storage and use
The samples are ready to use and shall be analyzed as soon as possible after arrival at the laboratory. Store the control at 2°C–8°C. Remove the samples from the refrigerator and allow to reach room temperature (18ºC–25ºC), at least 15 minutes, depending on remaining volume. Invert gently to assure homogeneity of the contents. Avoid foaming. Analyze as patient samples.

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

CSF-IgG-Index (CSF-IgG x S-Alb / S-IgG x CSF-Alb) shall be calculated based on the determined values. Report also CSF/S Albumin Ratio if available (CSF-Alb / S-Alb). Please note that CSF-Alb / S-Alb ratio is calculated using CSF-Alb result in mg/L and S-Alb result in g/L. If you do not analyze Li-IgG or Li-Alb / S-Alb, leave the measurement date for those analytes blank. We ask that you not fill in zero results as results.

S001

LQ735623011

S002

LQ735623012

2023-04-18

INSTRUCTIONS

Product no. 2160
LQ735623011-012/US, FI

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

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The results should be reported no later than **May 15, 2023**.

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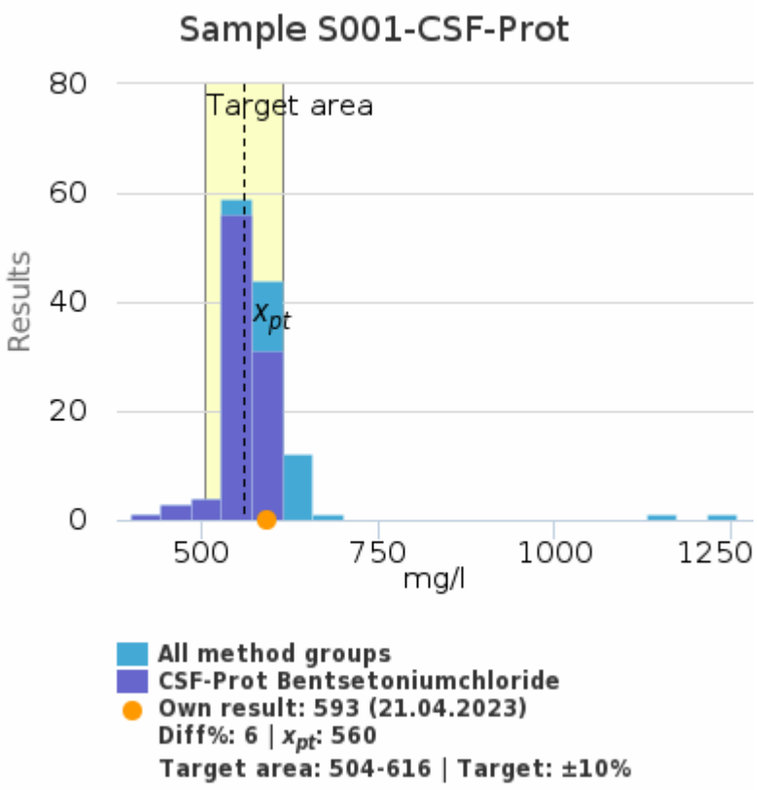
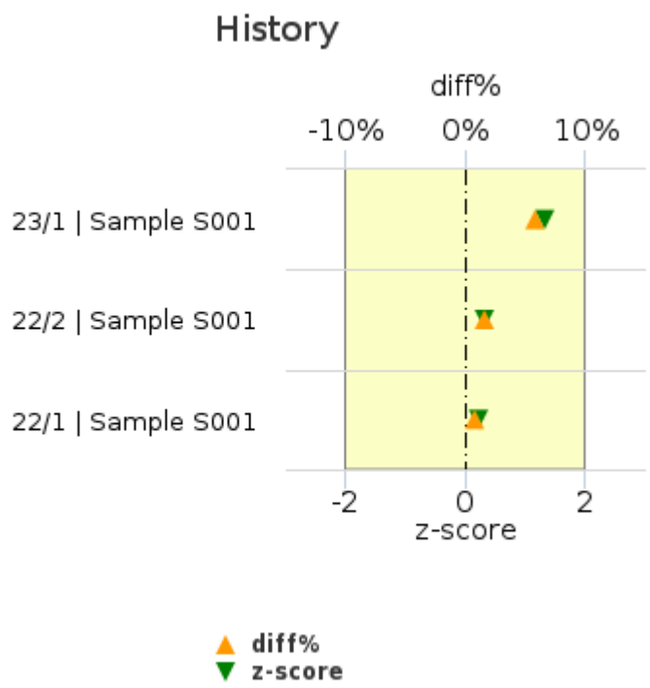
FINAS
Finnish Accreditation Service
PT02 (EN ISO/IEC 17043)

Quality Management
ISO 9001:2015

CSF-Prot





	x_{pt}	sd	SEM	CV%	n
CSF-Prot Bentsetoniumchloride	560 mg/l	25	3	4.4	95
All methods	570 mg/l	39	4	6.9	126

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S001	560	593	6%	1.33
22/2	Sample S001	290	295	2%	0.33
22/1	Sample S001	561	565	1%	0.24

Report info

Participants

134 participants from 18 countries.

Report info

Your own result should be compared to others using the same method.
Assigned values (x_{pt}, 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 " EQAS Interpretation guidelines" LabScala User instructions (top right corner ?Help link).

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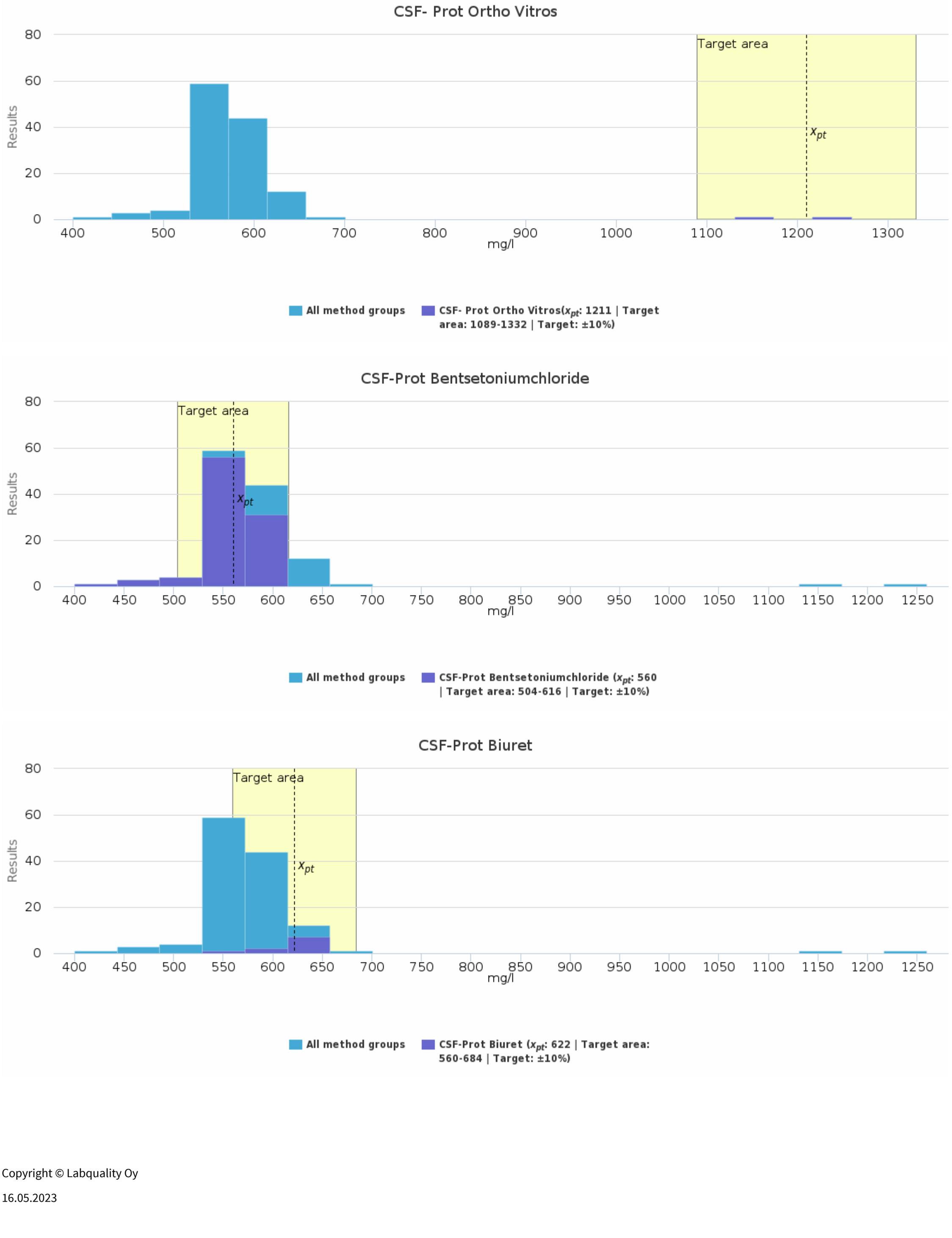
Sample S001 | CSF-Prot, mg/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
CSF- Prot Ortho Vitros	1211	1211	70	5.8	50	1161	1260	-	2
CSF-Prot Bentsetoniumchloride	560	561	25	4.4	3	472	610	3	95
CSF-Prot Biuret	622	635	29	4.7	9	560	651	-	10
CSF-Prot Pyrogallol	607	610	27	4.5	6	554	670	-	19
All	**570**	**570**	**39**	**6.9**	**4**	**400**	**670**	**2**	**126**



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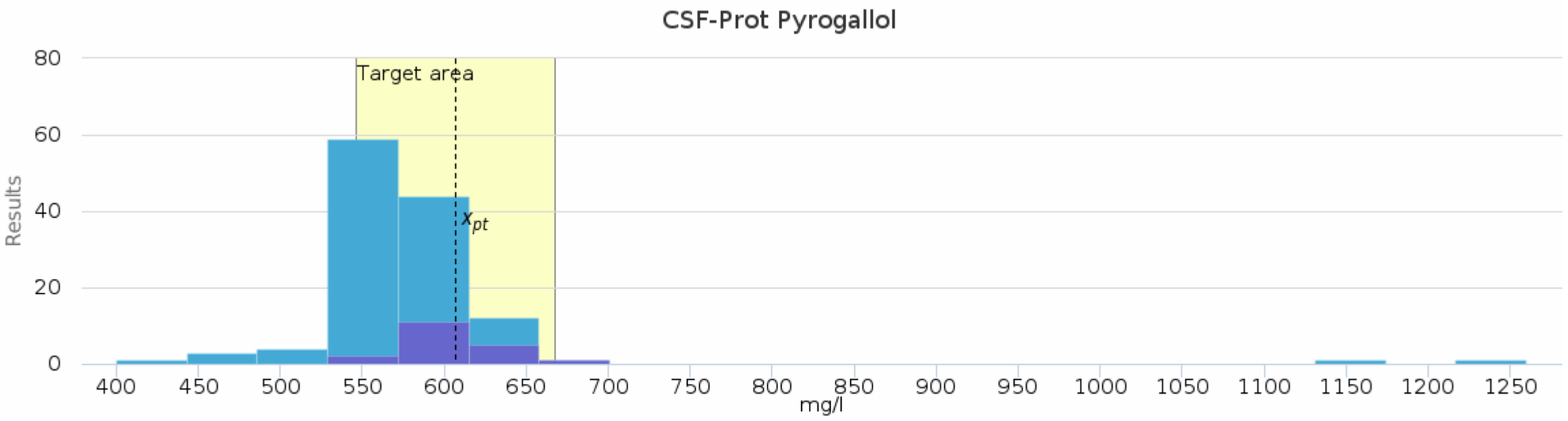

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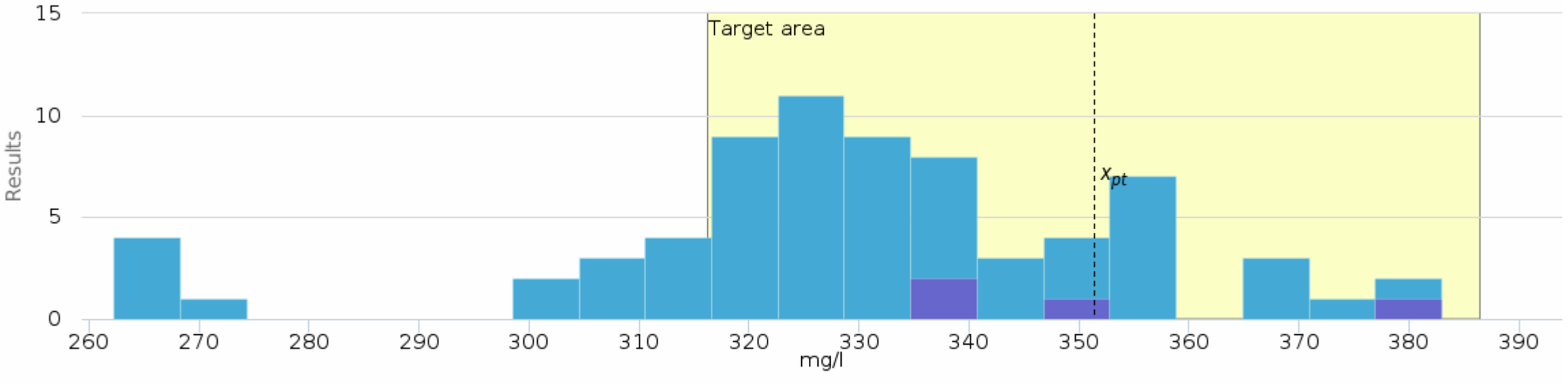
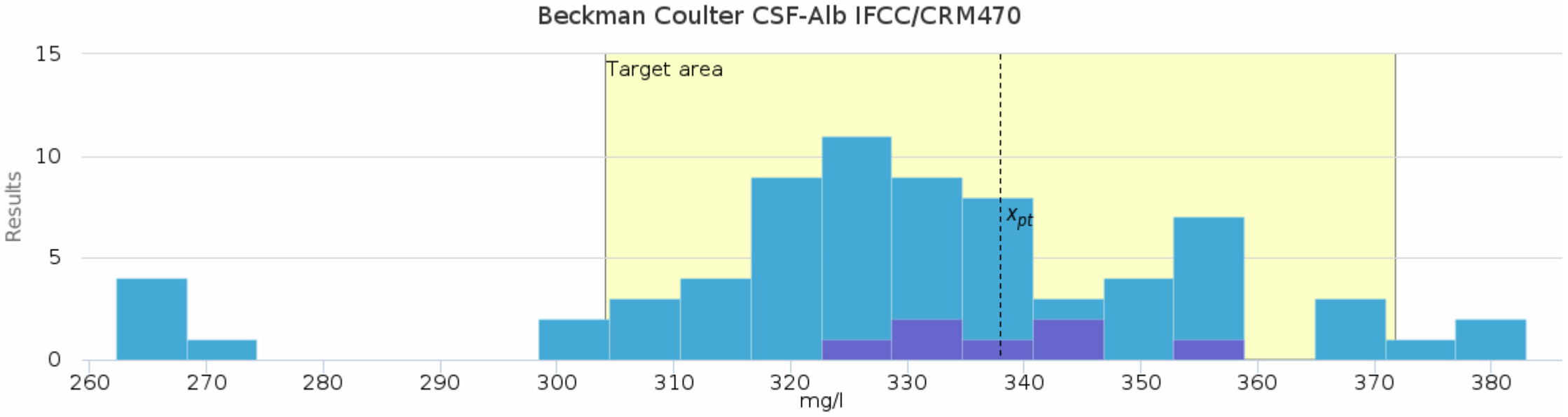
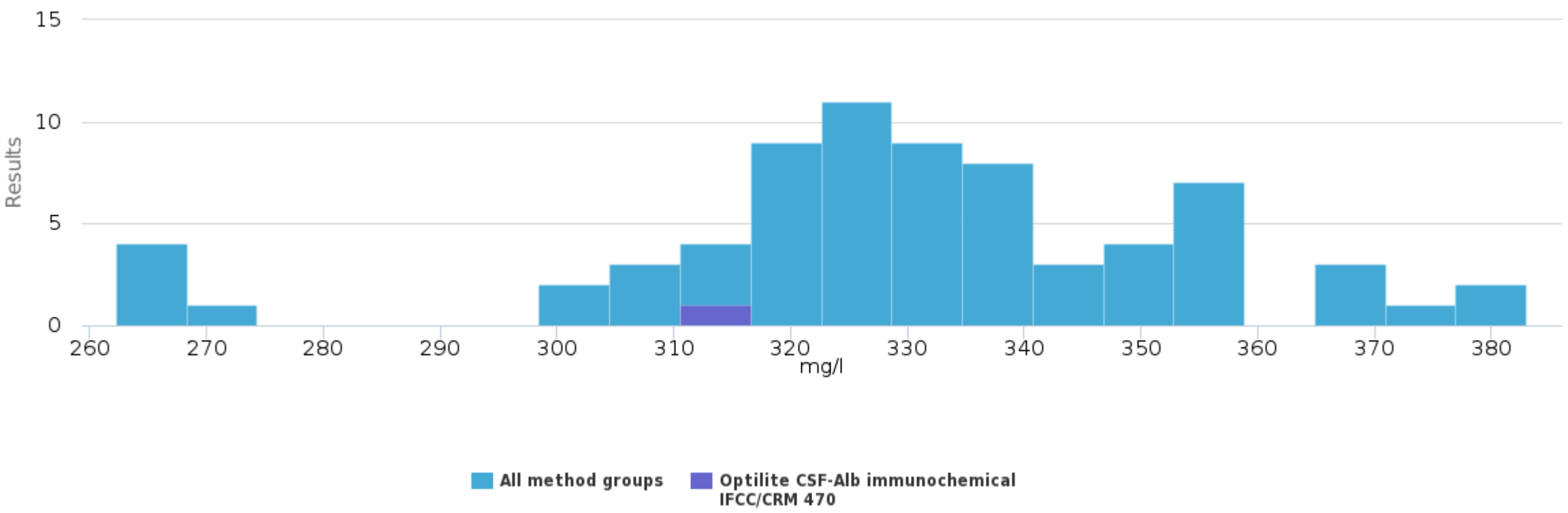
Sample S001 | CSF-Alb, mg/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott CSF-Alb IFCC/CRM470	351	344	18	5.2	9	340	378	-	4
Beckman Coulter CSF-Alb IFCC/CRM470	338	338	11	3.3	4	323	356	-	7
Optilite CSF-Alb immunochemical IFCC/CRM 470	-	-	-	-	-	313	313	-	1
Roche CSF-Alb IFCC/CRM470	325	325	11	3.2	2	300	353	-	32
Siemens CSF-Alb IFCC/CRM470	336	350	34	10.2	7	262	383	-	24
Siemens CSF-Alb Other	268	268	<1	0.2	<1	268	268	-	2
Thermo CSF-Alb IFCC / CRM470	-	-	-	-	-	334	334	-	1
All	**330**	**330**	**25**	**7.6**	**3**	**262**	**383**	**-**	**71**







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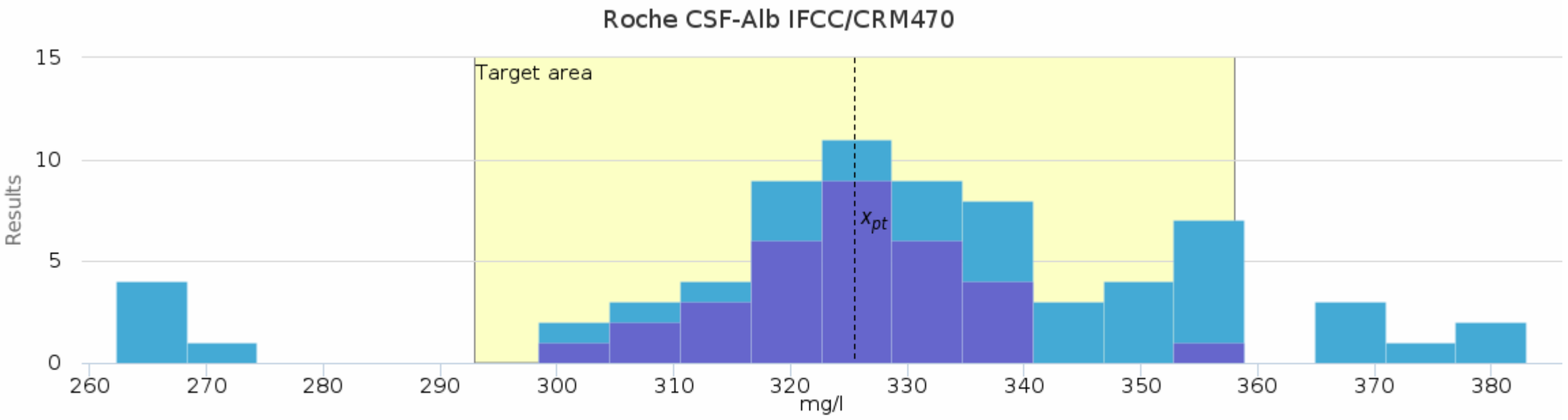

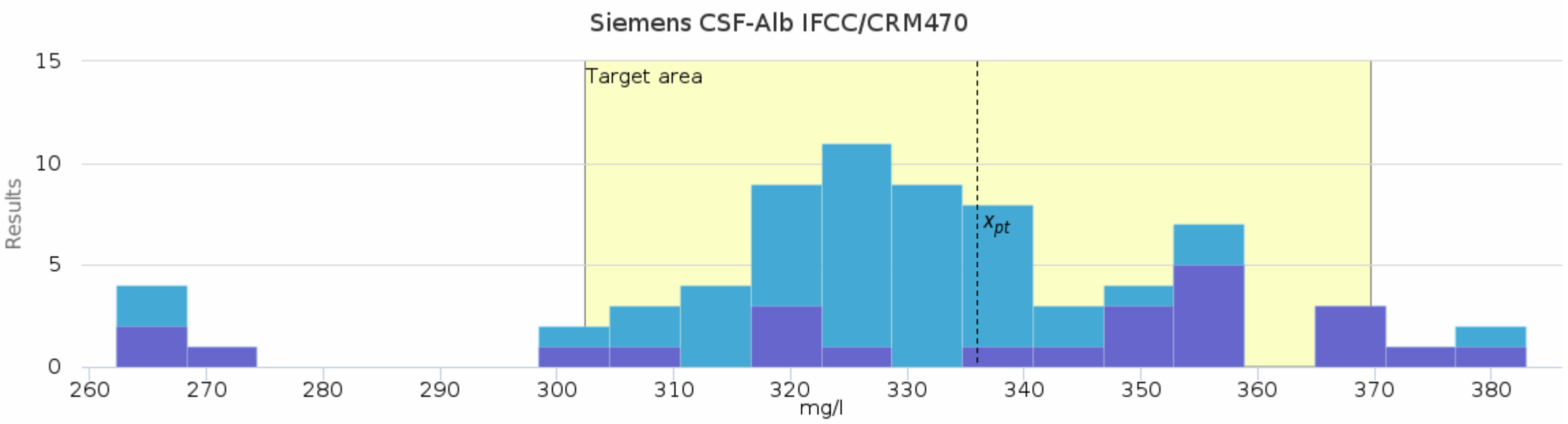

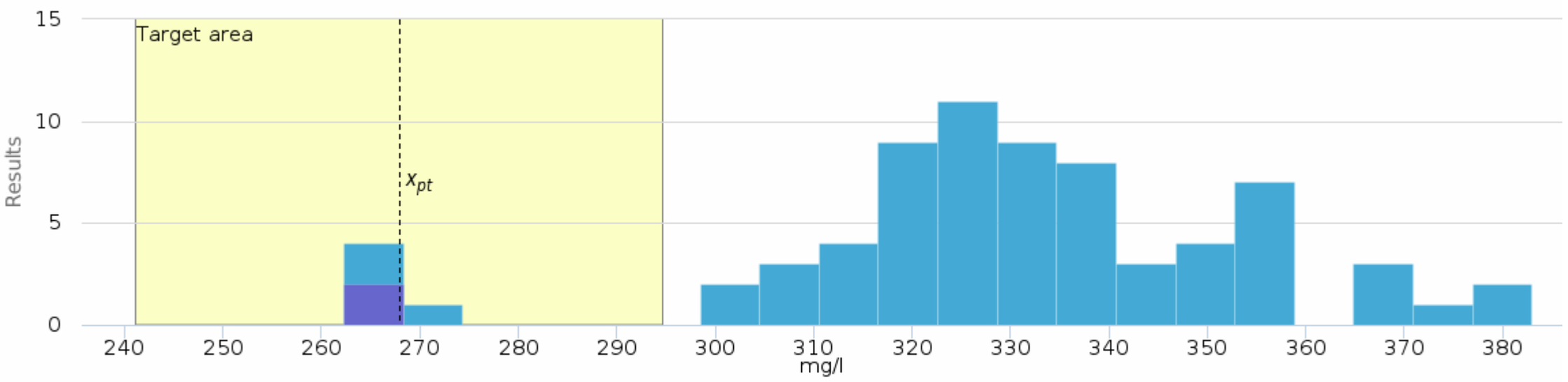

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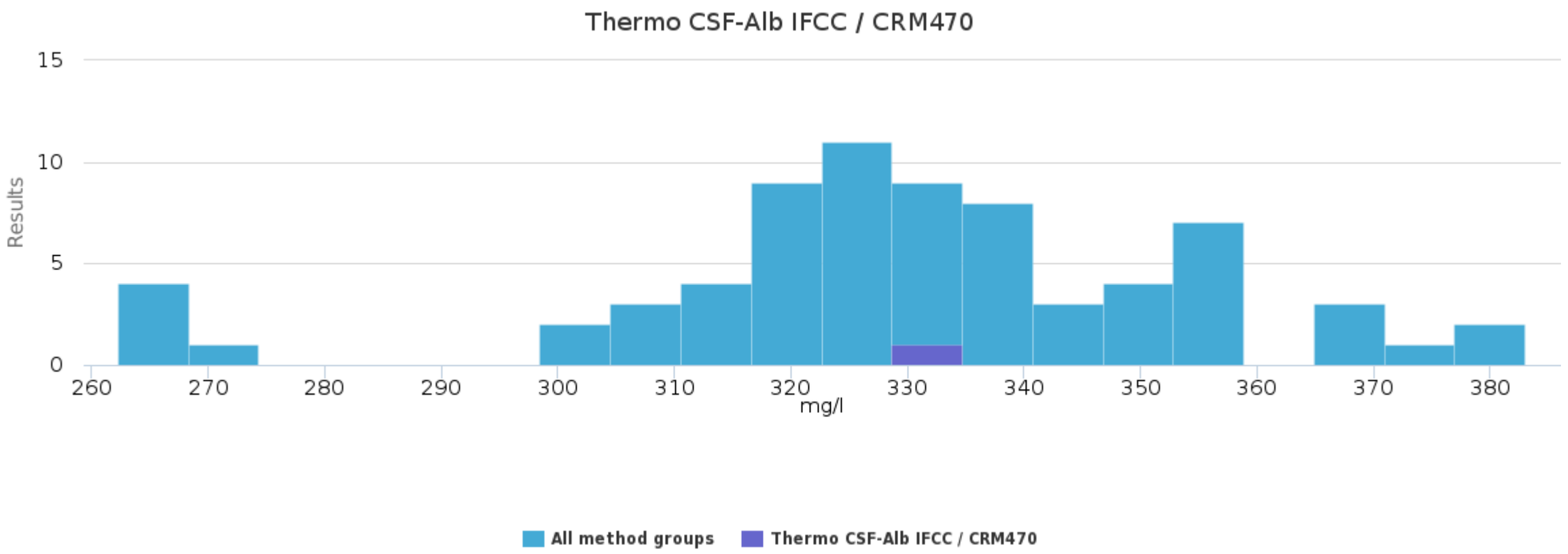

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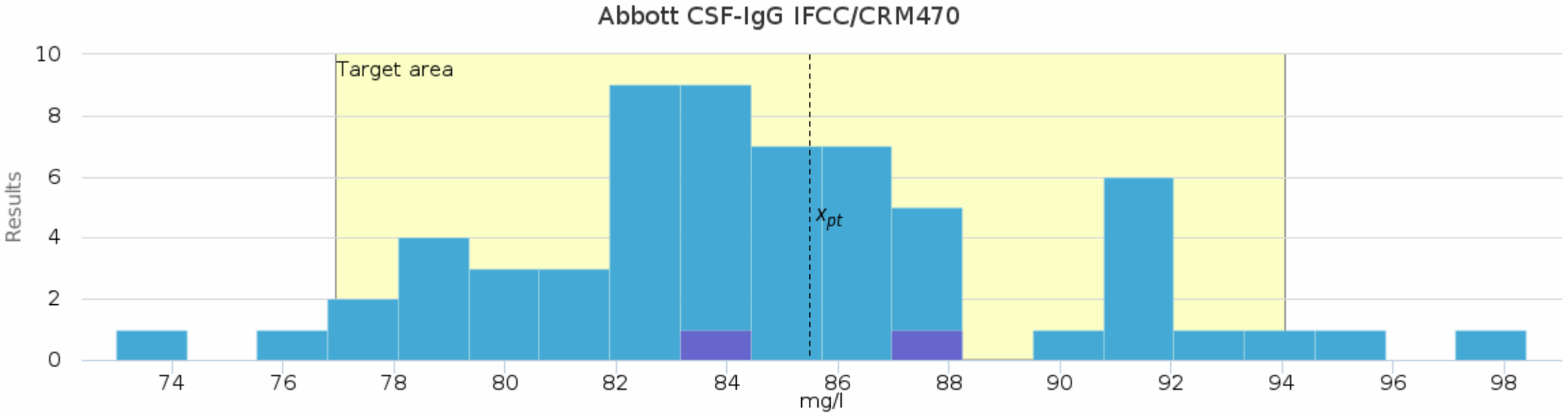
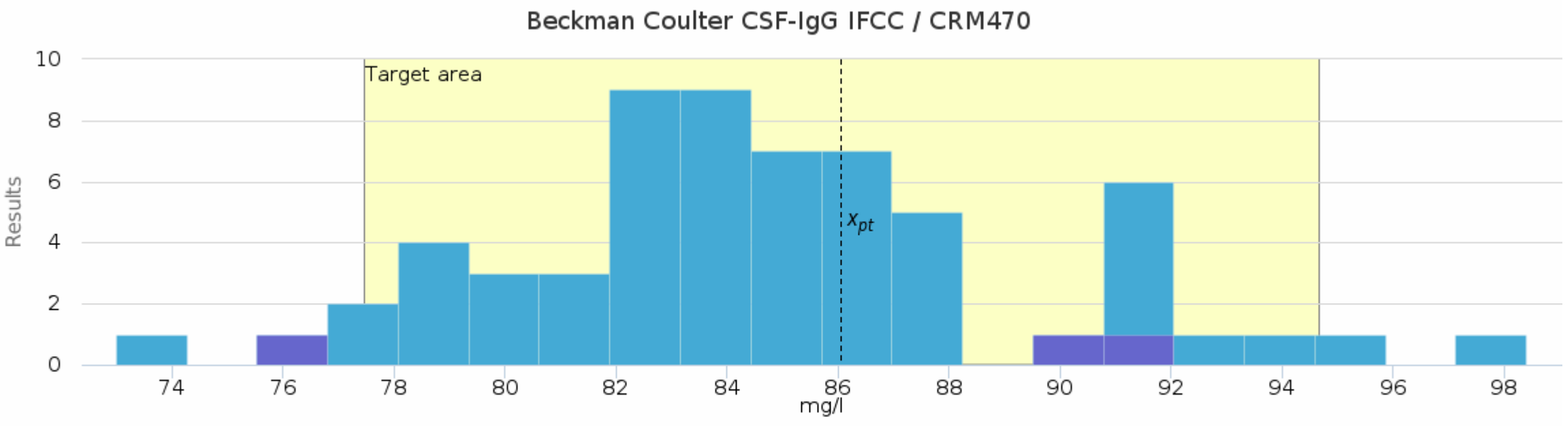
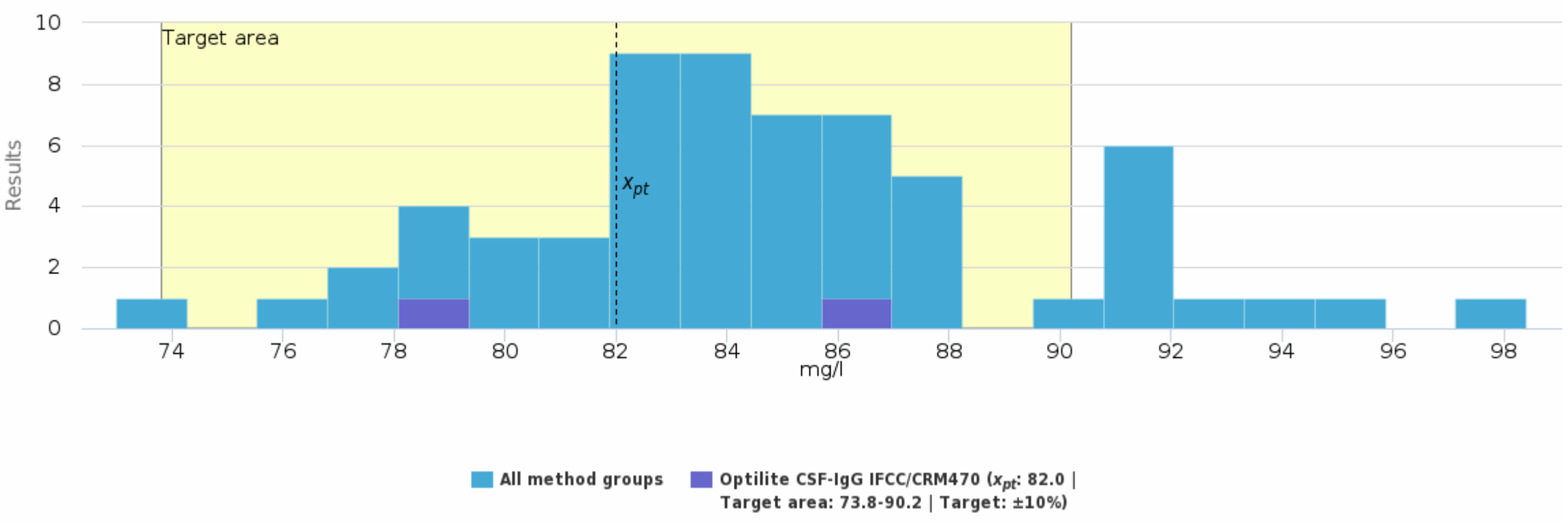
Sample S001 | CSF-IgG, mg/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott CSF-IgG IFCC/CRM470	85.5	85.5	2.1	2.5	1.5	84.0	87.0	-	2
Beckman Coulter CSF-IgG IFCC / CRM470	86.1	90.0	8.6	10.0	5.0	76.2	92.0	-	3
Optilite CSF-IgG IFCC/CRM470	82.0	82.0	5.4	6.6	3.8	78.2	85.9	-	2
Roche CSF-IgG IFCC/CRM470	82.4	82.8	2.2	2.6	0.4	77.4	86.0	1	27
Siemens CSF-IgG IFCC/CRM470	86.9	86.0	5.6	6.4	1.1	73.0	98.4	-	27
Thermo CSF-IgG IFCC / CRM470	-	-	-	-	-	86.3	86.3	-	1
All	**84.8**	**84.3**	**4.9**	**5.7**	**0.6**	**73.0**	**98.4**	**-**	**62**







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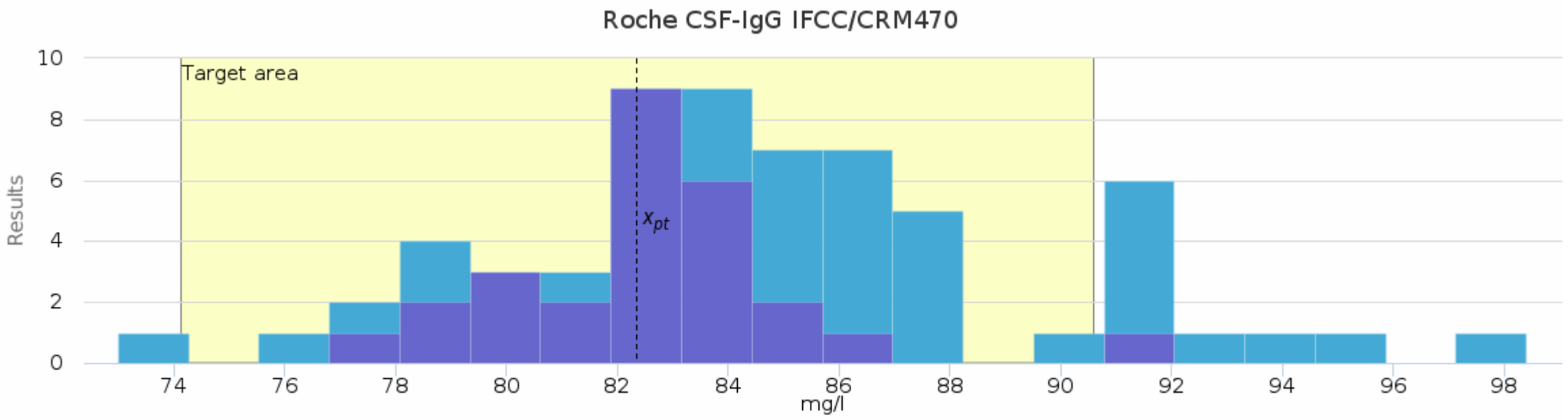

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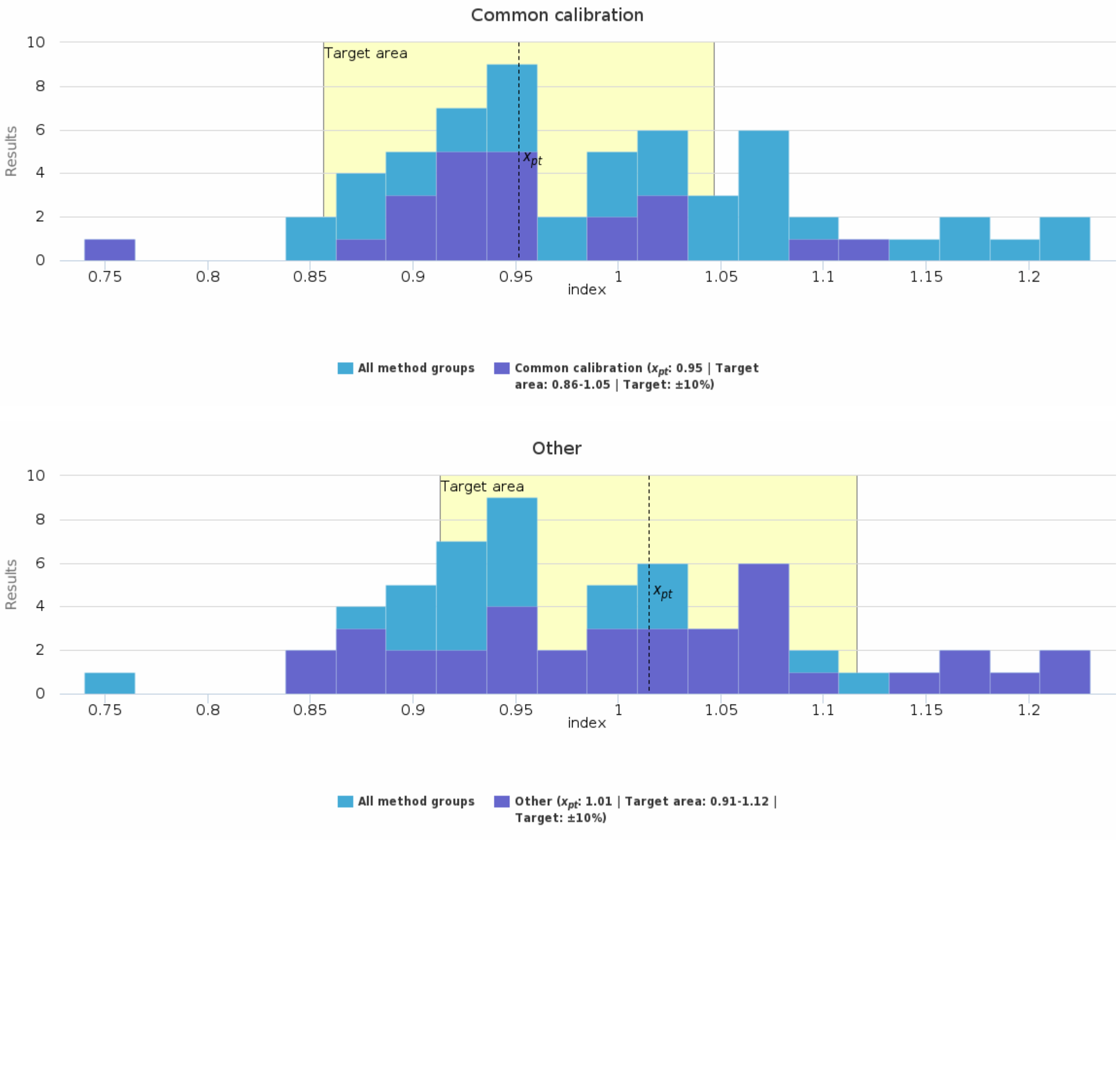
Sample S001 | CSF-IgG-Ind, index

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Common calibration	0.95	0.94	0.08	8.1	0.02	0.74	1.11	-	22
Other	1.01	1.01	0.10	10.2	0.02	0.86	1.23	-	37
All	**0.99**	**0.97**	**0.10**	**10.0**	**0.01**	**0.74**	**1.23**	**-**	**59**



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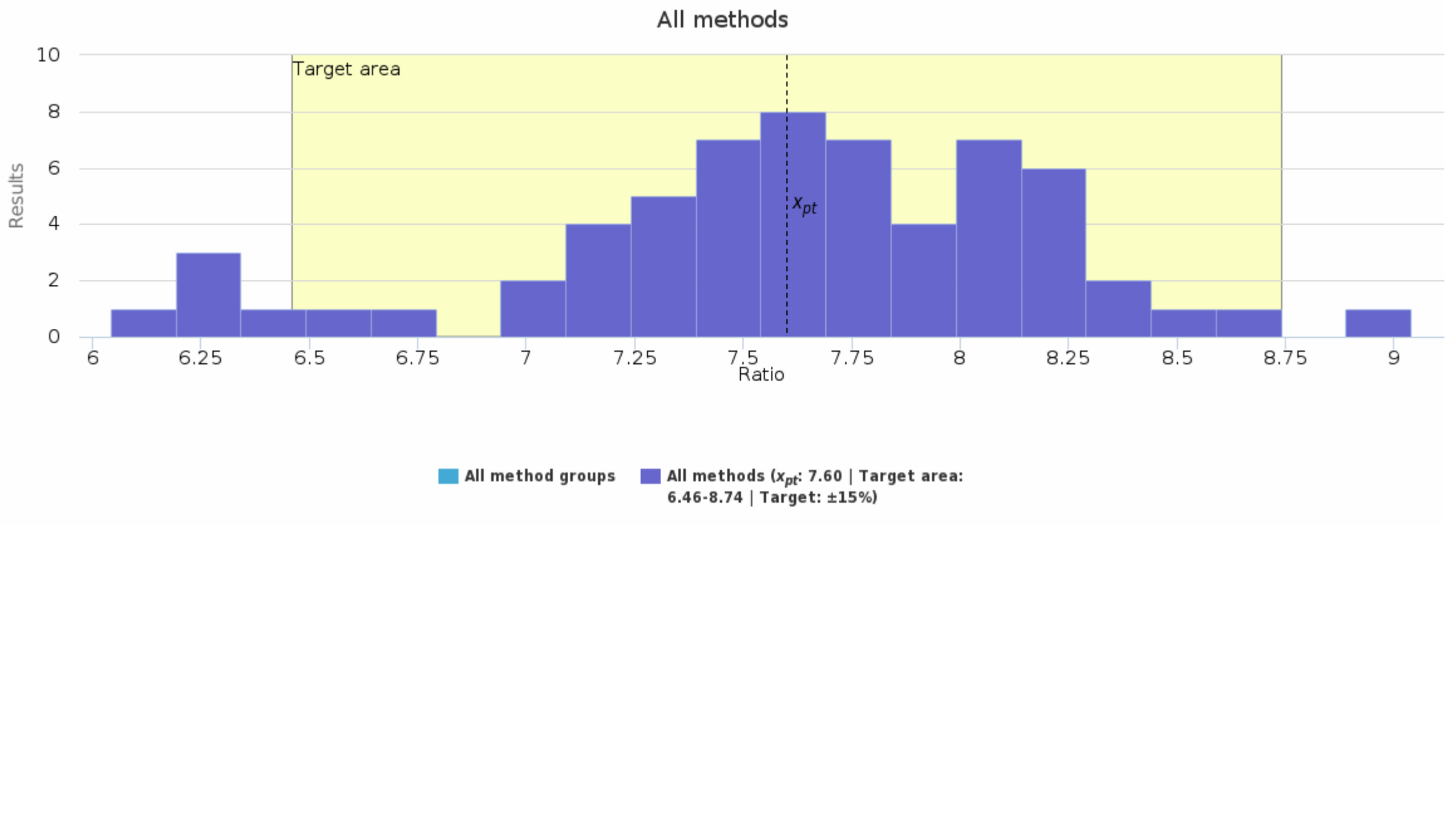
Sample S001 | CSF-Alb / S -Alb, Ratio

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
All methods	7.60	7.66	0.60	7.9	0.08	6.04	9.04	-	62
All	**7.60**	**7.66**	**0.60**	**7.9**	**0.08**	**6.04**	**9.04**	**-**	**62**



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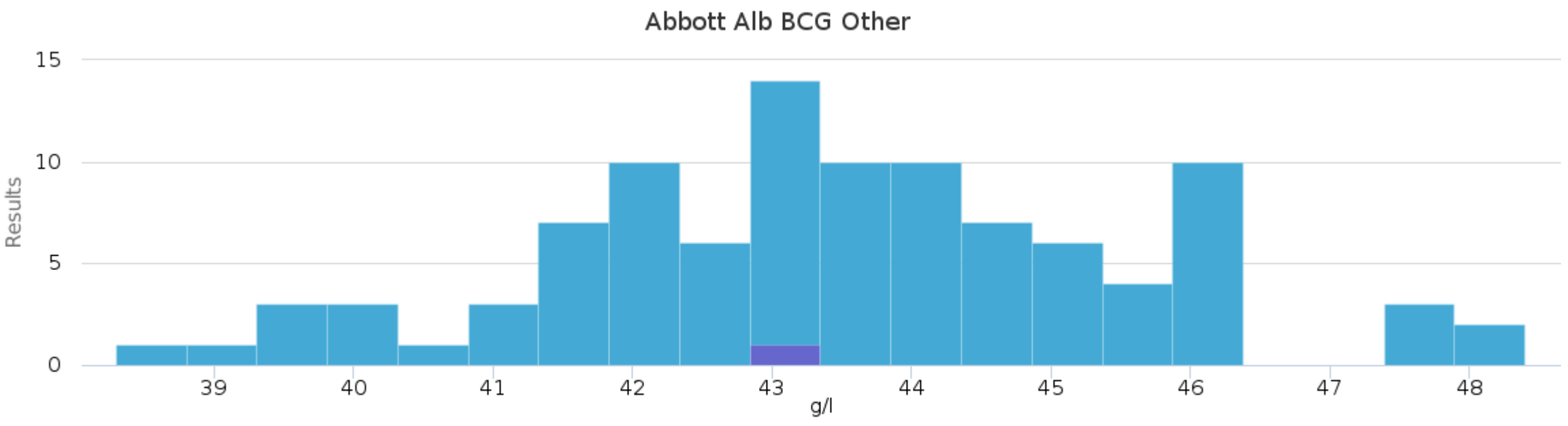
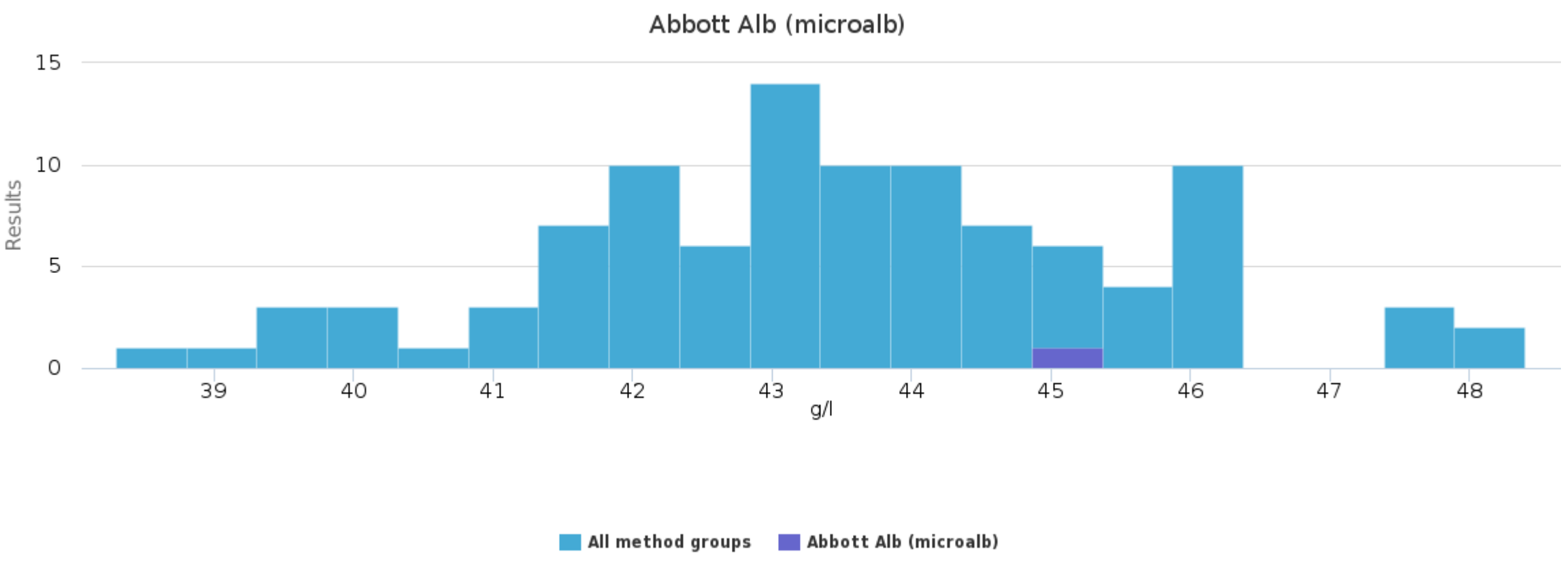
Sample S002 | S-Alb, g/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alb BCG Other	-	-	-	-	-	43.0	43.0	-	1
Abbott Alb (microalb)	-	-	-	-	-	45.0	45.0	-	1
Abbott IFCC/CRM470 Alb BCP	43.3	43.0	1.5	3.5	0.8	42.0	45.0	-	4
Abbott IFCC/RM470 Alb BCG	-	-	-	-	-	43.6	43.6	-	1
Beckman Coulter Alb IFCC/CRM 470	43.2	43.4	0.8	1.8	0.2	41.5	44.3	-	10
Diasys Alb IFCC/CRM470	-	-	-	-	-	48.0	48.0	-	1
Ortho Vitros Alb IFCC/CRM470	-	-	-	-	-	45.7	45.7	-	1
Roche Alb BCG IFCC/CRM470	44.2	44.6	2.0	4.4	0.3	39.4	47.7	-	32
Roche Alb BCP IFCC/CRM470	41.9	42.1	0.7	1.7	0.2	40.8	42.8	-	10
Roche Alb Other	42.8	42.4	2.3	5.3	0.6	38.3	48.4	-	13
Roche Alb Tina-q IFCC / CRM470	-	-	-	-	-	45.6	45.6	-	1
Siemens Alb IFCC/CRM470	43.2	43.0	2.4	5.5	0.5	39.0	47.8	-	24
Siemens Alb Other	-	-	-	-	-	43.6	43.6	-	1
Thermo Alb IFCC/CRM470	-	-	-	-	-	43.5	43.5	-	1
All	**43.5**	**43.4**	**2.0**	**4.7**	**0.2**	**38.3**	**48.4**	**-**	**101**





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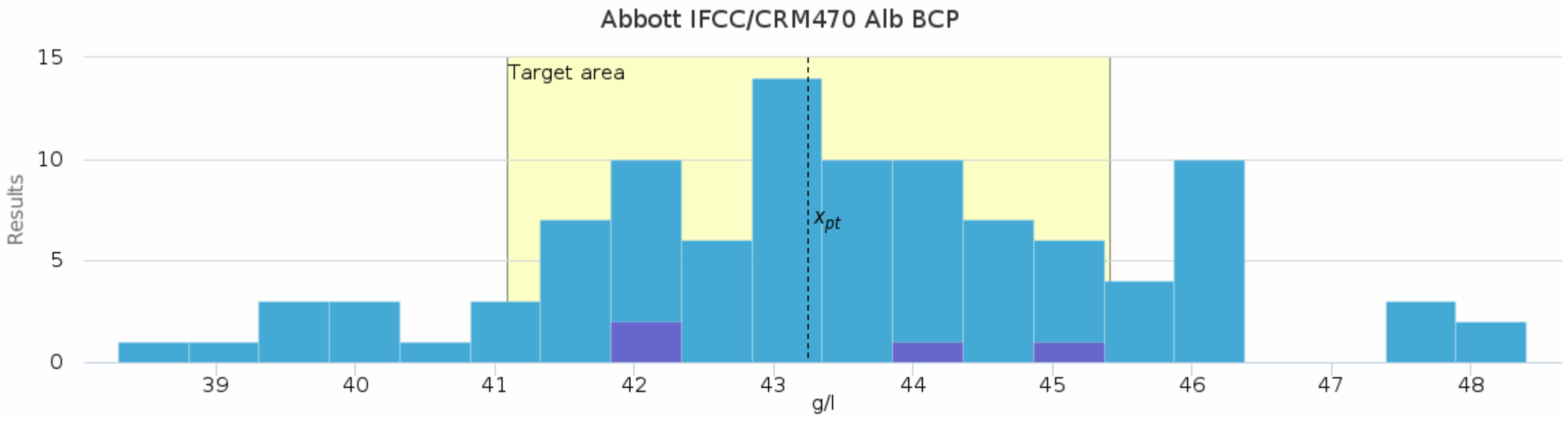

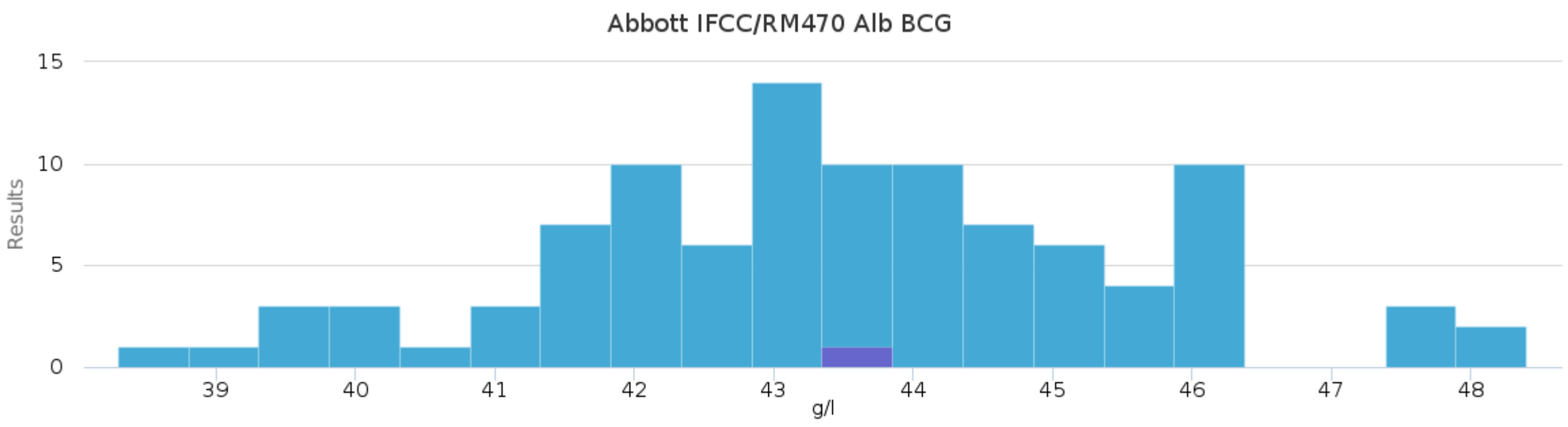

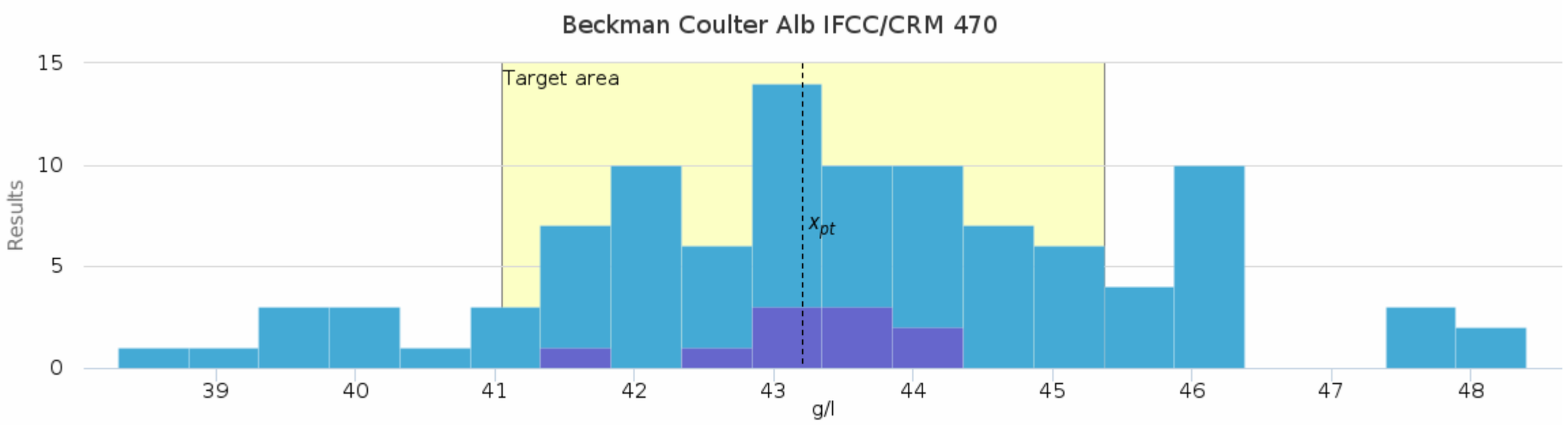

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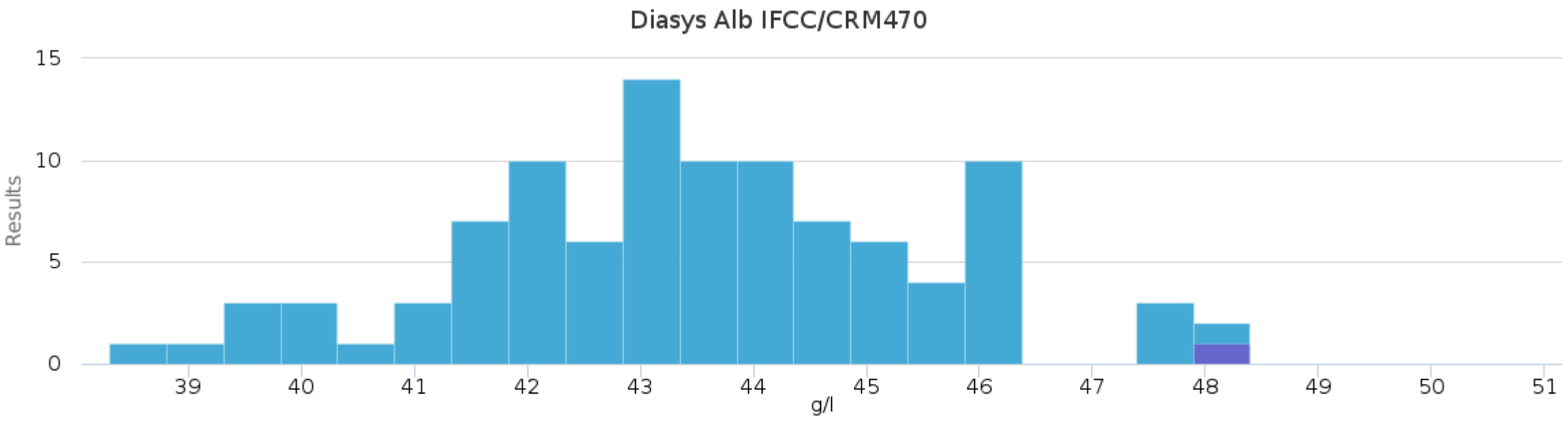

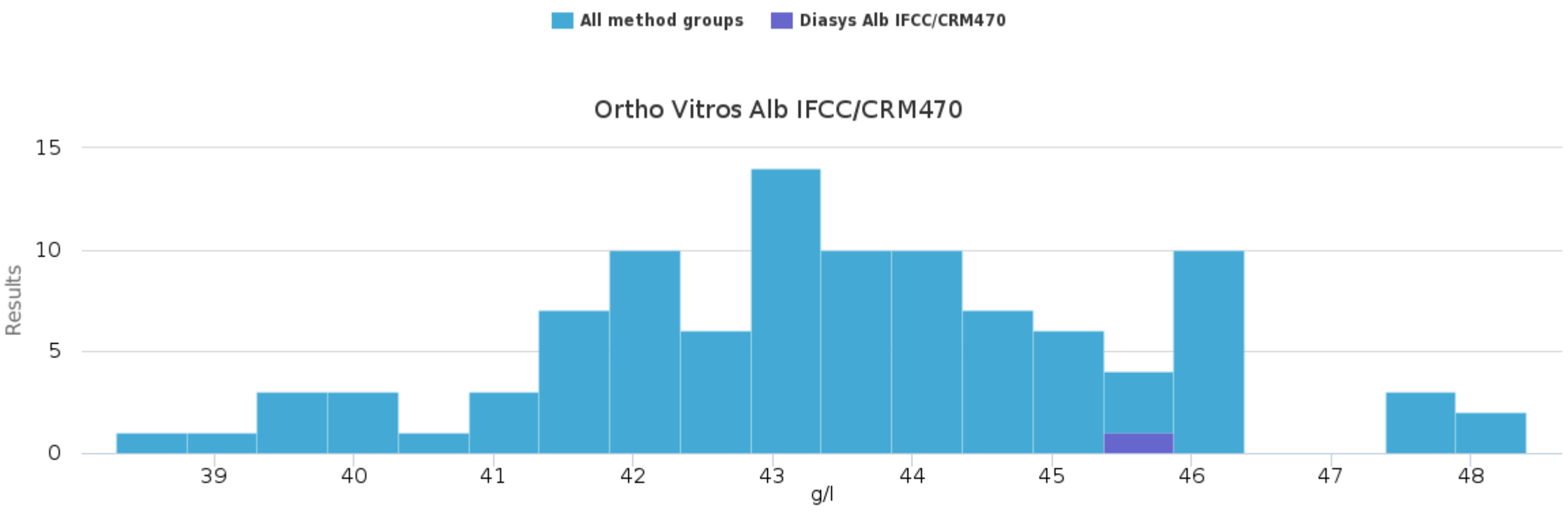

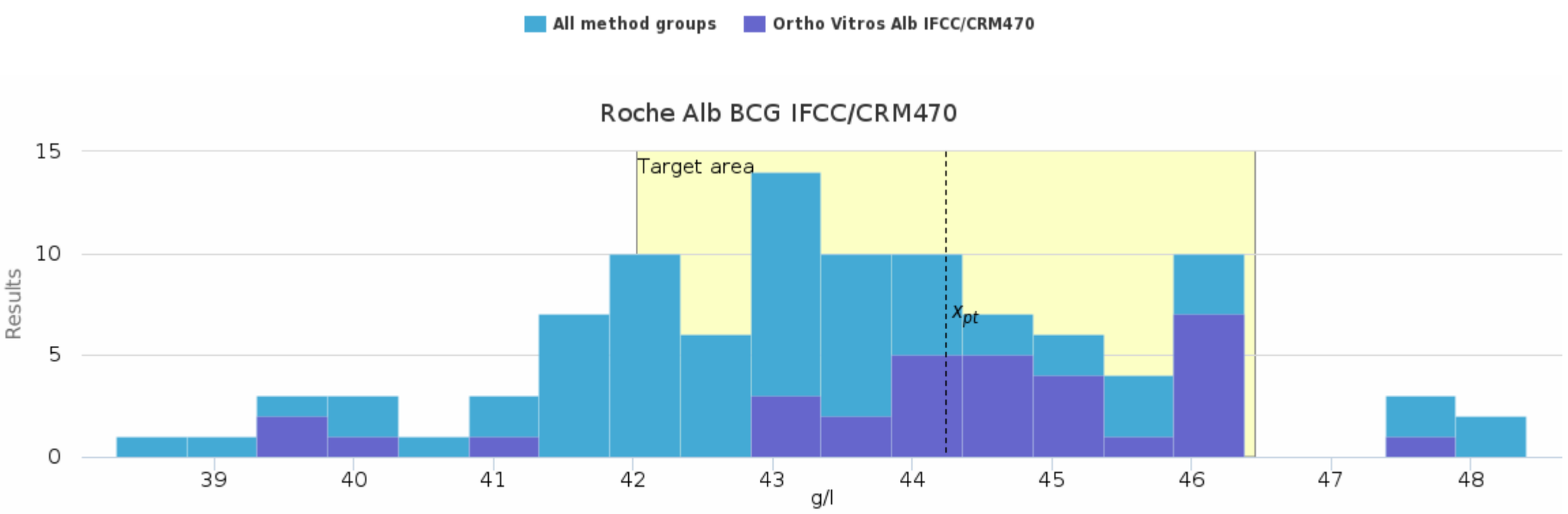

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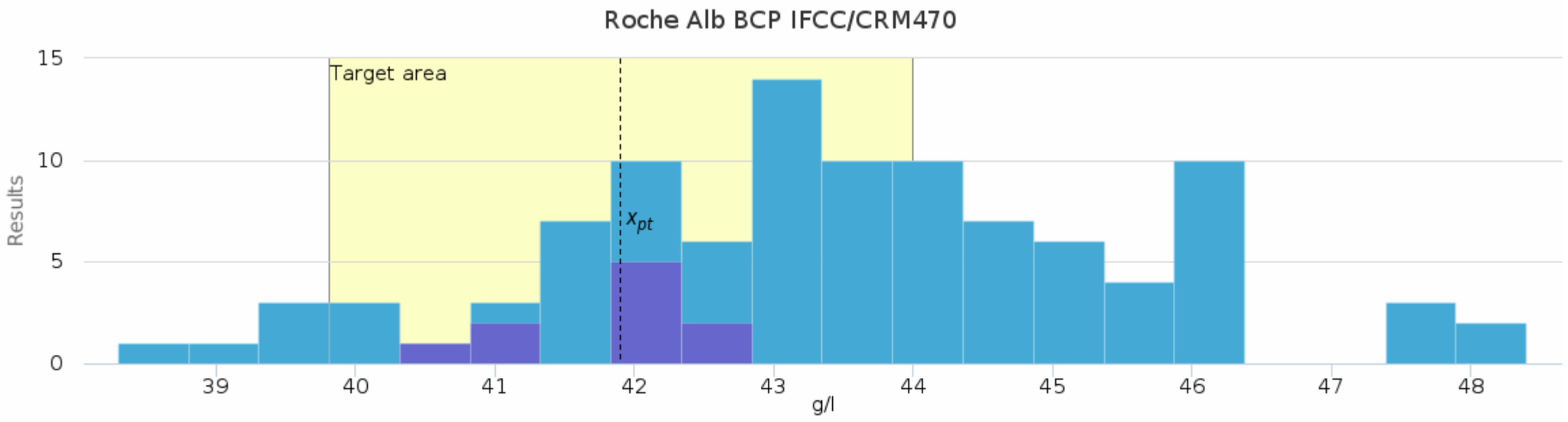

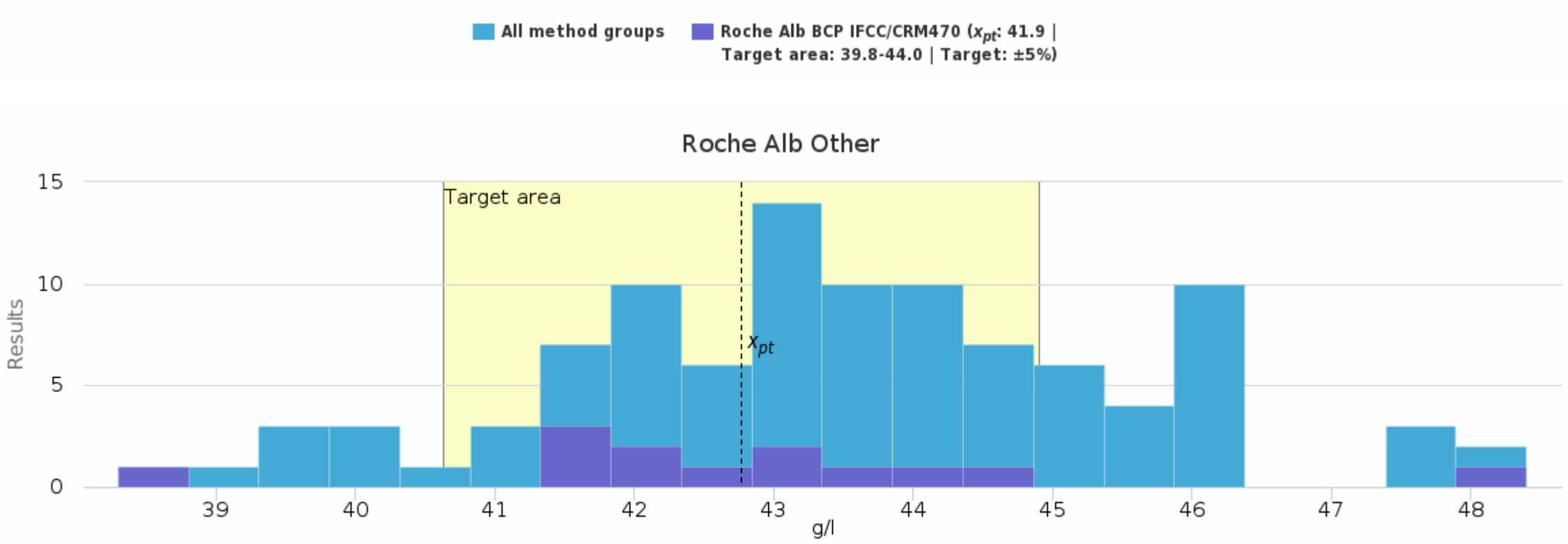

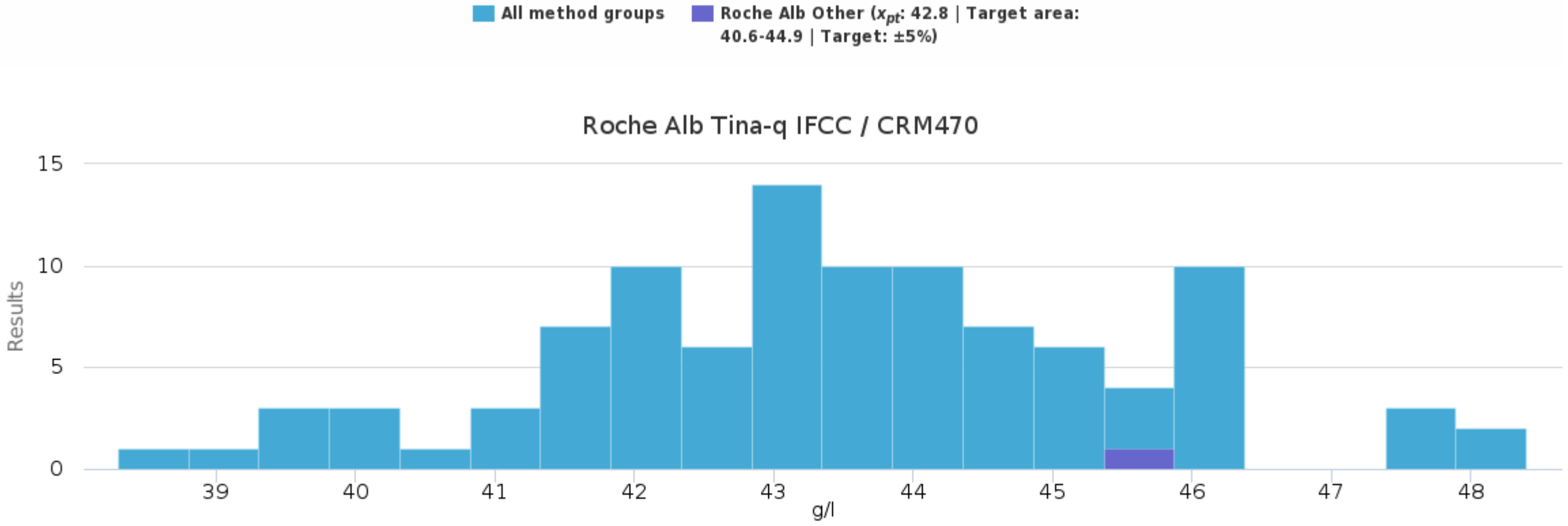

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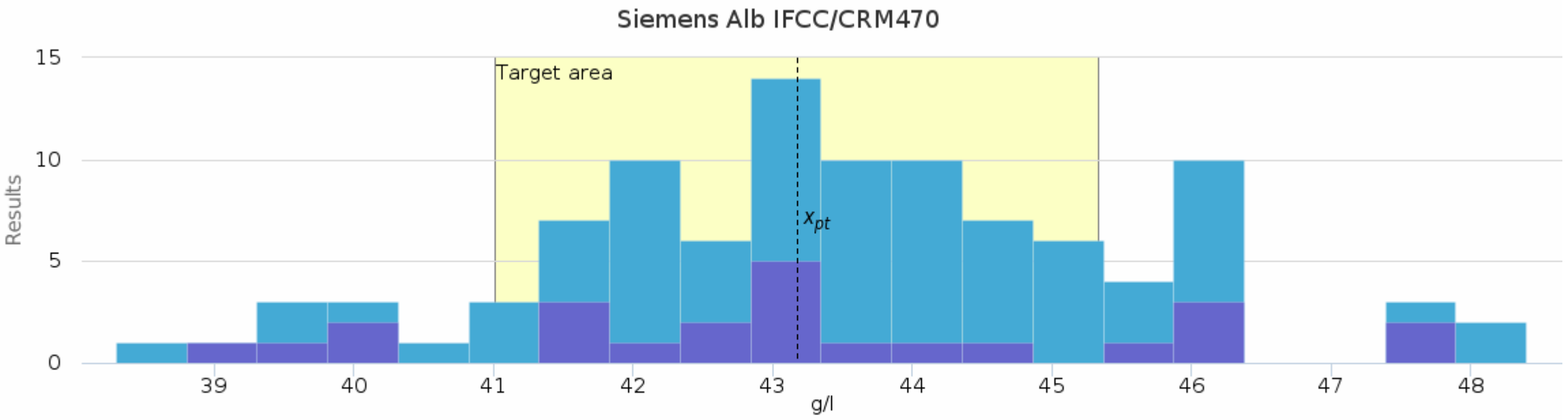

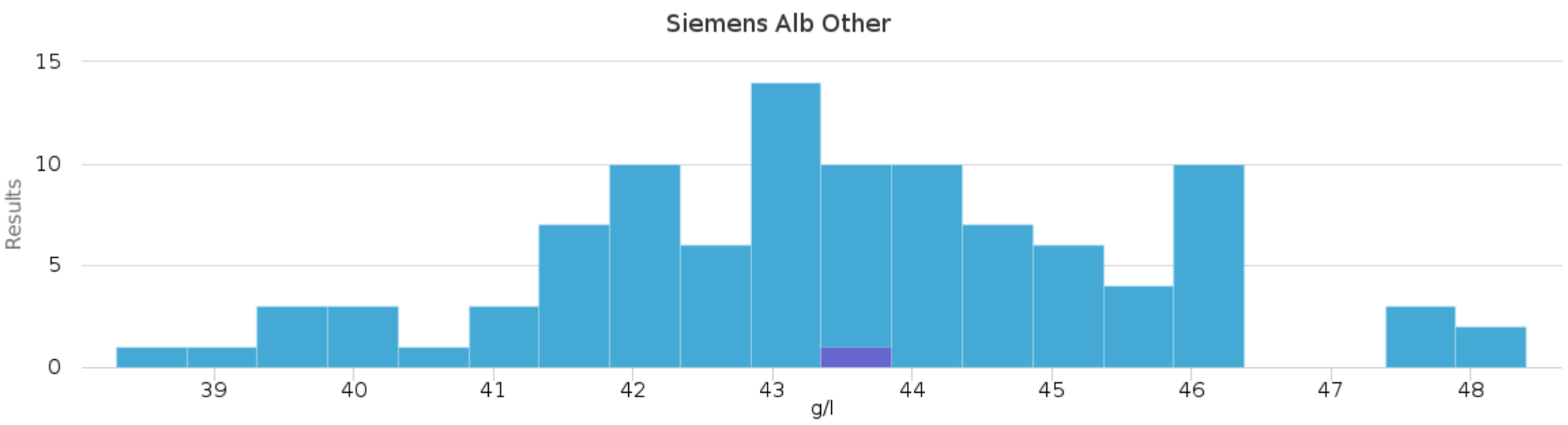

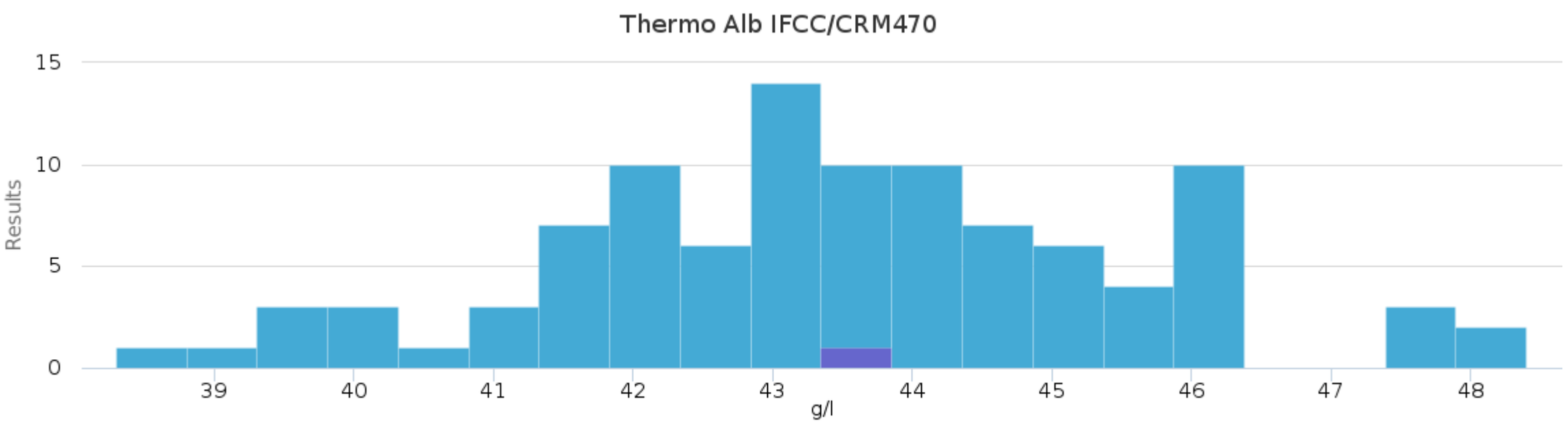

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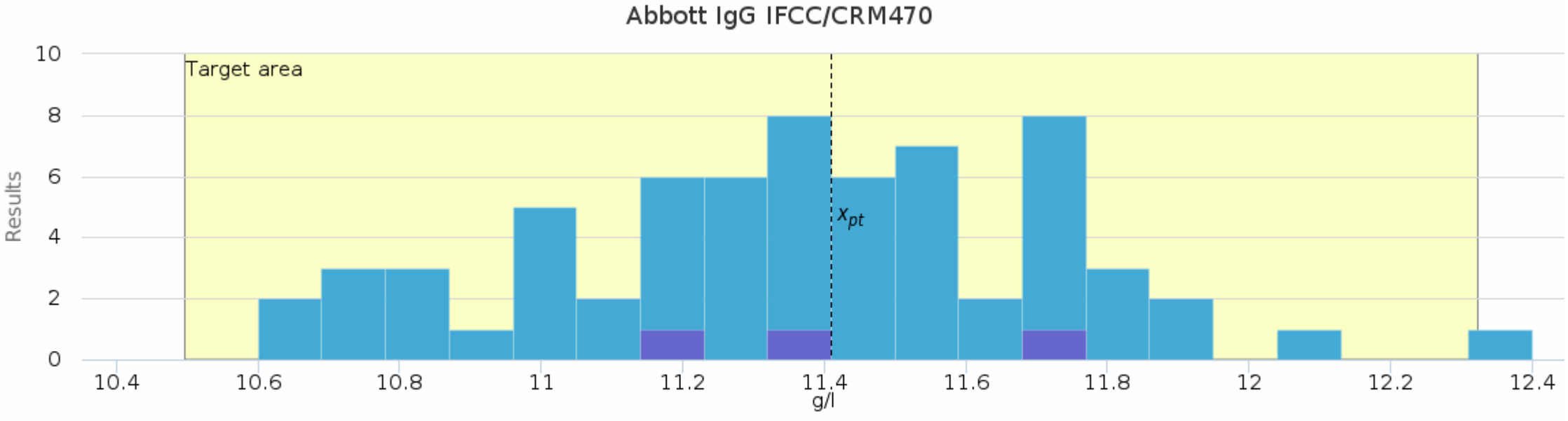
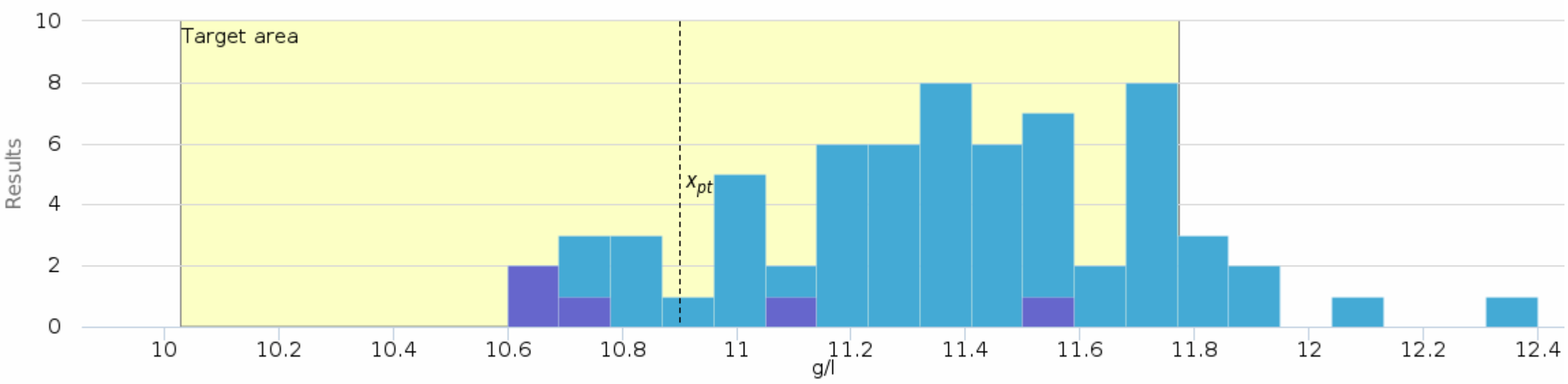
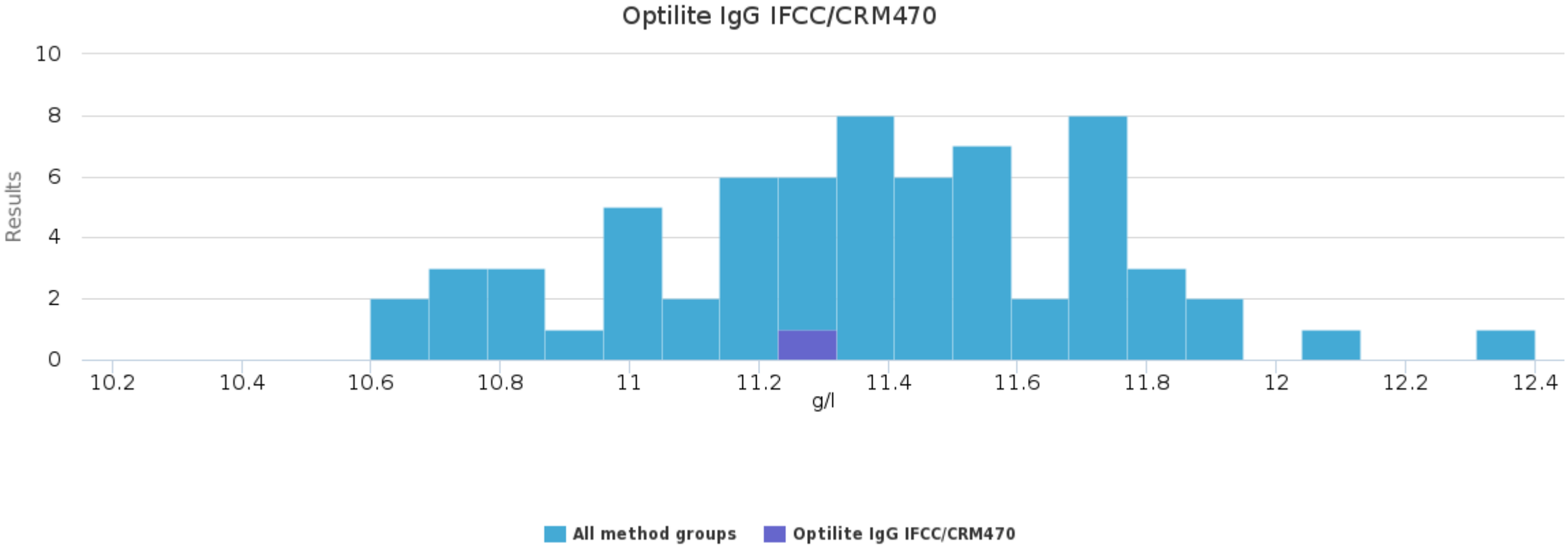
Sample S002 | S-IgG, g/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott IgG IFCC/CRM470	11.4	11.4	0.3	2.4	0.2	11.2	11.7	-	3
Beckman Coulter IgG IFCC / CRM470	10.9	10.7	0.4	3.5	0.2	10.6	11.5	-	5
Optilite IgG IFCC/CRM470	-	-	-	-	-	11.2	11.2	-	1
Roche IgG IFCC / CRM470	11.3	11.3	0.3	2.5	<0.1	10.8	11.9	-	27
Roche IgG Other	11.5	11.5	0.2	1.4	<0.1	11.3	11.6	-	3
Siemens IgG IFCC/CRM470	11.5	11.5	0.4	3.4	<0.1	10.7	12.4	-	26
Thermo IgG IFCC / CRM470	-	-	-	-	-	10.8	10.8	-	1
All	**11.4**	**11.4**	**0.4**	**3.2**	**<0.1**	**10.6**	**12.4**	**-**	**66**







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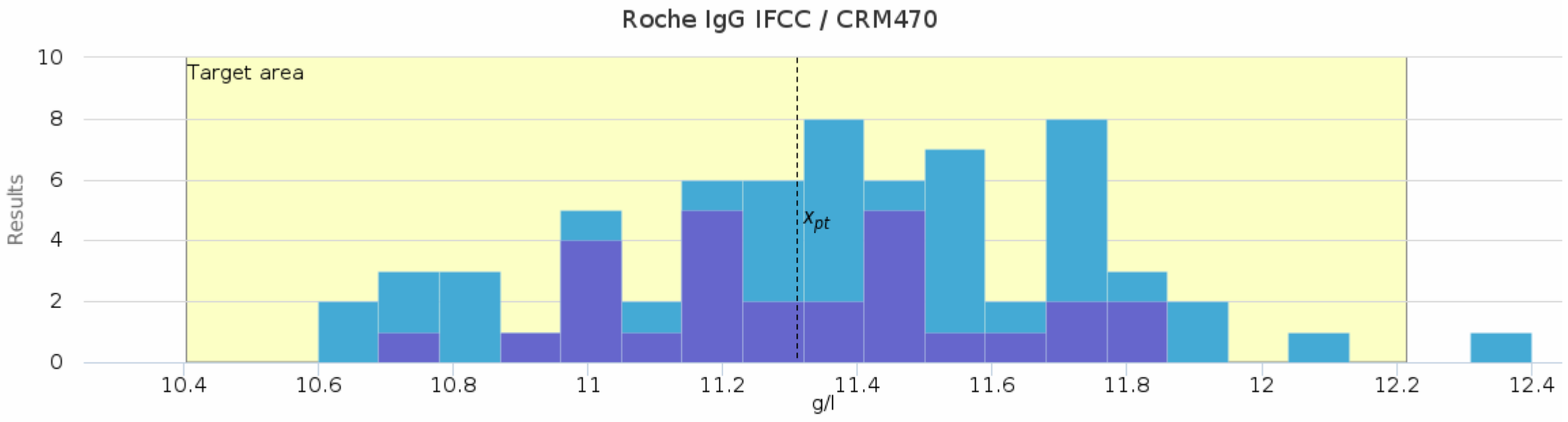
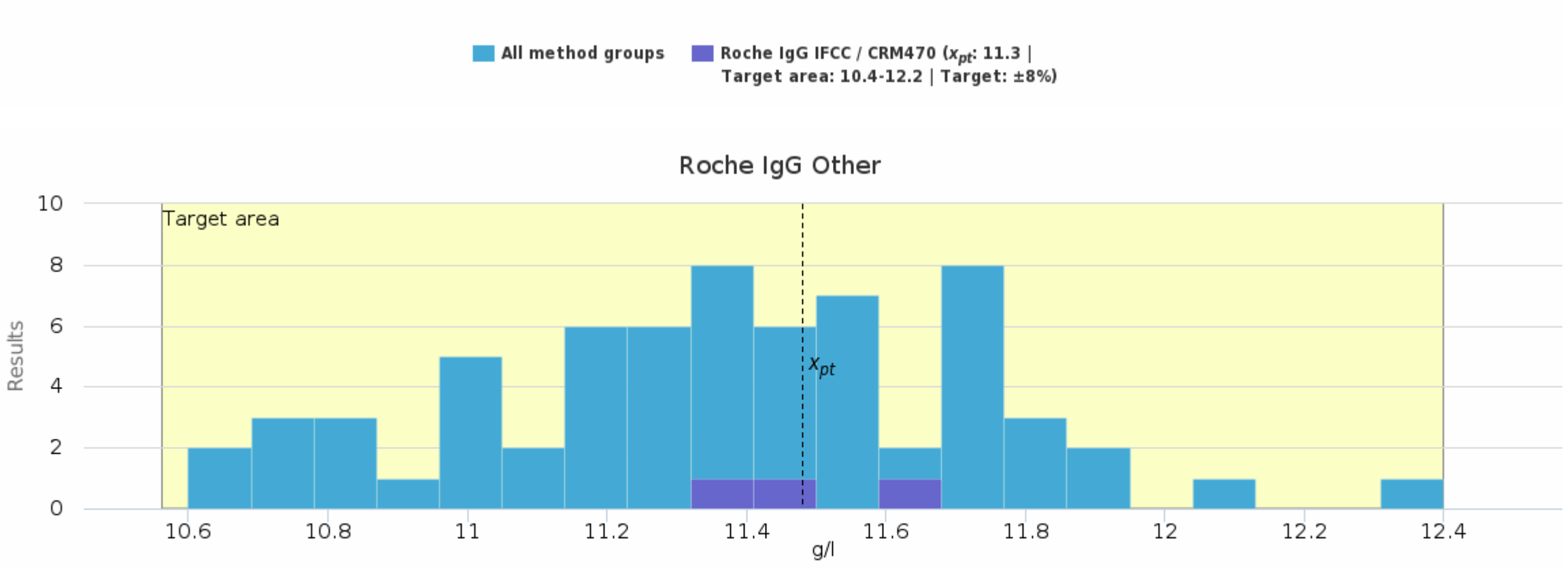
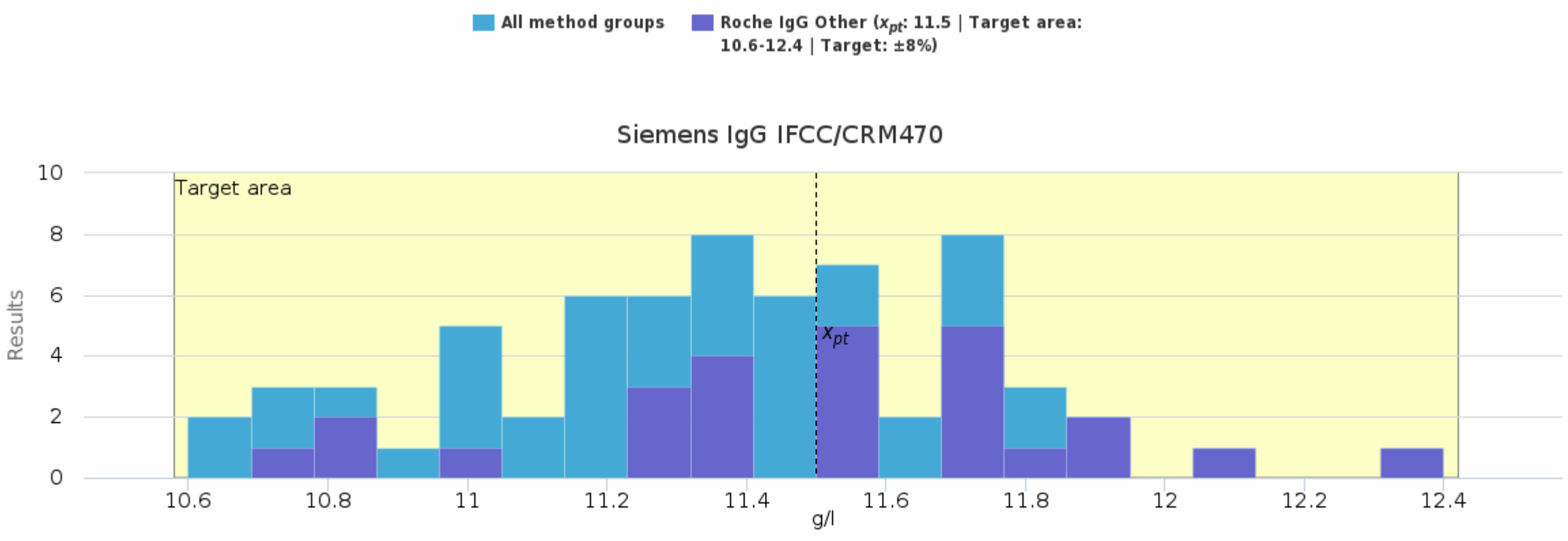
Proteins in cerebrospinal fluid, April, 1-2023







All method groups
Siemens IgG IFCC/CRM470 (x_{pt}: 11.5 | Target area: 10.6-12.4 | Target: ±8%)

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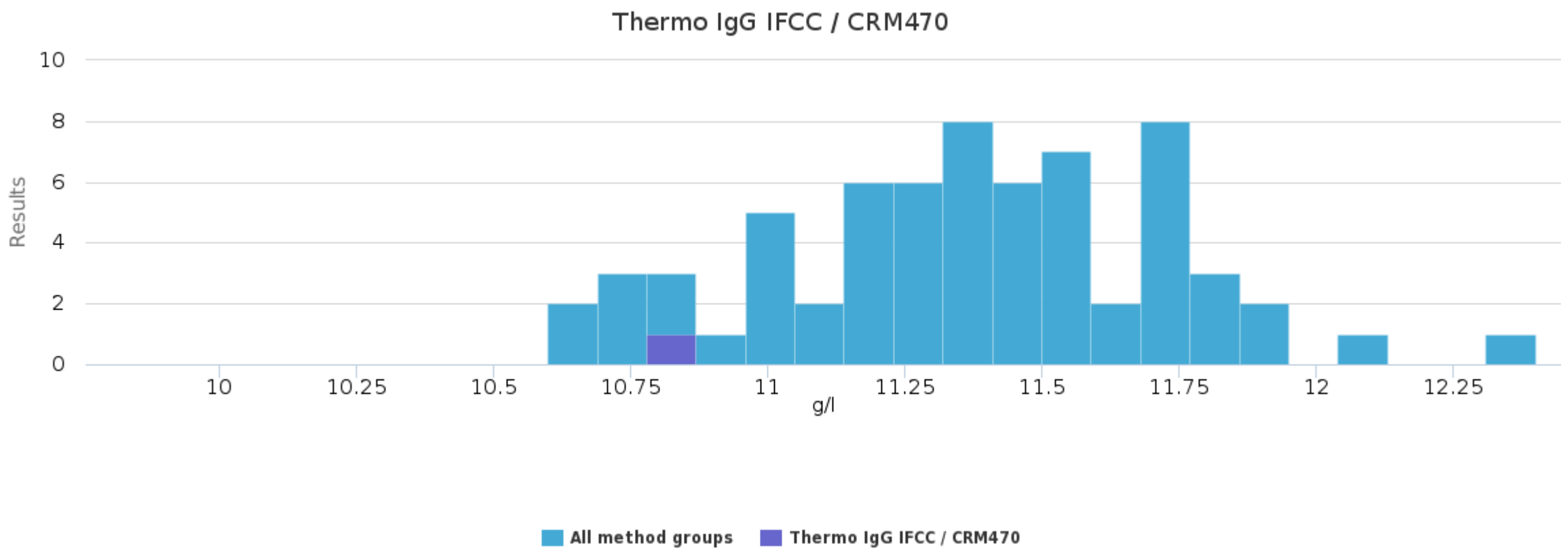
Proteins in cerebrospinal fluid, April, 1-2023



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Report info

Participants

134 participants from 18 countries.

Report info

Your own result should be compared to others using the same method.
Assigned values (x_{pt}, 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 " EQAS Interpretation guidelines" LabScala User instructions (top right corner ?Help link).

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External Quality Assessment Scheme

Proteins in cerebrospinal fluid
Round 1, 2023

2023-06-21

FINAL REPORT

Product no. 2160

Samples sent	2023-04-18
Round closed	2023-05-15
Final report	2023-06-21

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

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

Quality Management
ISO 9001:2015

Specimens
Sample S001 (LQ735623011) was liquid commercial human cerebrospinal fluid and sample S002 (LQ735623012) was liquid pooled human serum. 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 Global report. 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
Two CSF-Prot results were reported from Vitros and the mean of the results was 1211 mg/L. The level is much higher than the level of other method groups as on earlier rounds.

In serum albumin assays, the results of the Roche BCG (IFCC / CRM470) and Siemens Alb IFCC and cerebrospinal fluid assays Siemens IFCC method group results are very wide over the concentration range.

We kindly ask clients to note that the result field for any analyte on the results sheet can be left empty by leaving the measurement date field blank. Please calculate your CSF-Alb/S-Alb ratio using unit mg/L for CSF result and g/L for serum result.

Question about a new analyte for the round
β-Trace protein (βTP) is a brain-specific protein that is secreted into the cerebrospinal fluid. βTP is the second most abundant protein in CSF after albumin. If the test is part of your laboratory's test selection and you would be interested in participating in the pilot round organized by Labquality, we kindly ask you to contact the round's EQA coordinator or Labquality's info.

Comments – Expert
In the CSF-Alb results, a few results significantly different from the overall distribution have been reported from sample S001. All these results are in Siemens groups. The same phenomenon has also been seen in previous rounds, which is why the question arises whether the standardization of the method can perhaps be traced to a previously used method, and not to the current method group.

The S-Alb results show a wide dispersion both within the result groups and between the groups. When it comes to an analyte like albumin, which has nationally consistent reference values, one's own result level should perhaps not be compared to one's own group of results from a diagnostic point of view, but to the average and standard deviation of all results.

Regarding the CSF-Alb/S-Alb ratio, most of the reported results were within the target limits of the overall deviation.

End of report

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